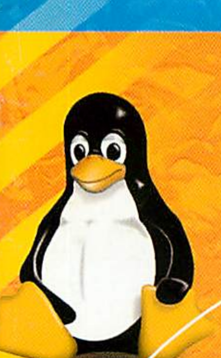
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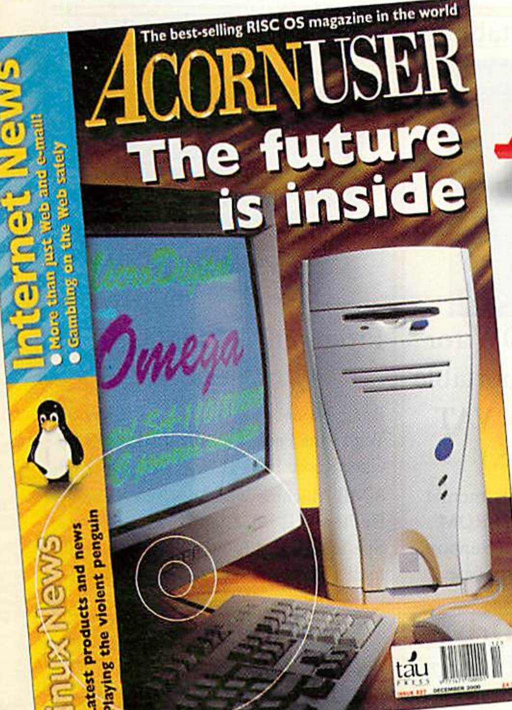
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December 2000

ACORNUSER



Features

Regulars

Linux User





Just when you thought you knew the game that people in the market were playing along comes someone to stick a pin in your balloon.

The Wakefield Show had been so carefully planned out, everybody knew that the exciting feature was going to be the Riscstation RISC OS portable, the thing we've been waiting for for eight years.

The fact that Riscstation decided to launch a Psion-type portable in the same way that Acorn did the Pocketbook all those years ago came as something of a surprise – who said Roy Heslop couldn't keep a secret?

But clearly there's one company that really can keep a secret – a huge secret, one that doesn't join in the regular round of playground politics "look what he done to me!" that plagues our market.

The Omega from MicroDigital is a bolt from the blue, from the company that brought us the outrageously coloured Medi and the (seemingly) unimpressive Mico, we have this:

A machine that will take a super-fast 32-bit StrongARM 2 (along with the current one) and will run 32-bit software even if the operating system hasn't been upgraded.

A machine that bypasses the VIDC/IOMD problem and leapfrogs the promised motherboard from Millipede. It's got PCI and it's got USB, that Riscstation promised.

It looks sexy, it's compact and bijou, and the very second the new StrongARMs (not called that any more but who cares) it rockets RISC OS back into the realms of the latest PCs and will give us back the power to *convince*.

Apart from fulfilling promises that others have made it does something else too: It gives RISCOS Ltd a machine to put a 32-bit OS on – the question is: Will they play the game for all of us, or will they go back to the playground?

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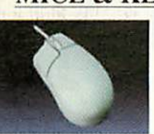
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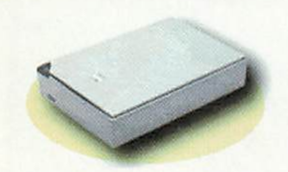
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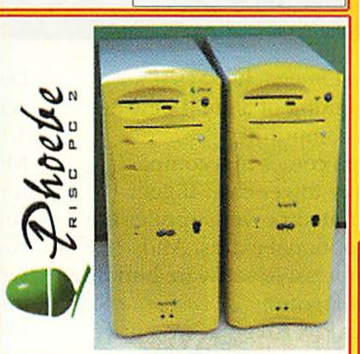
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It's not yellow but . . . WOW!

Two years ago when Acorn threw in the desktop market towel there was gloom and despondency in the RISC OS community. But after a lull there came new machines like the Mico and the Scorcher, and upgrades like the Viewfinder and Kinetic cards.

And now there's MicroDigital's 1GHz Omega. The fastest RISC OS machine to date (or, at least, it will be). Whether it's the last word in computing remains to be seen, but the specification is quite something:

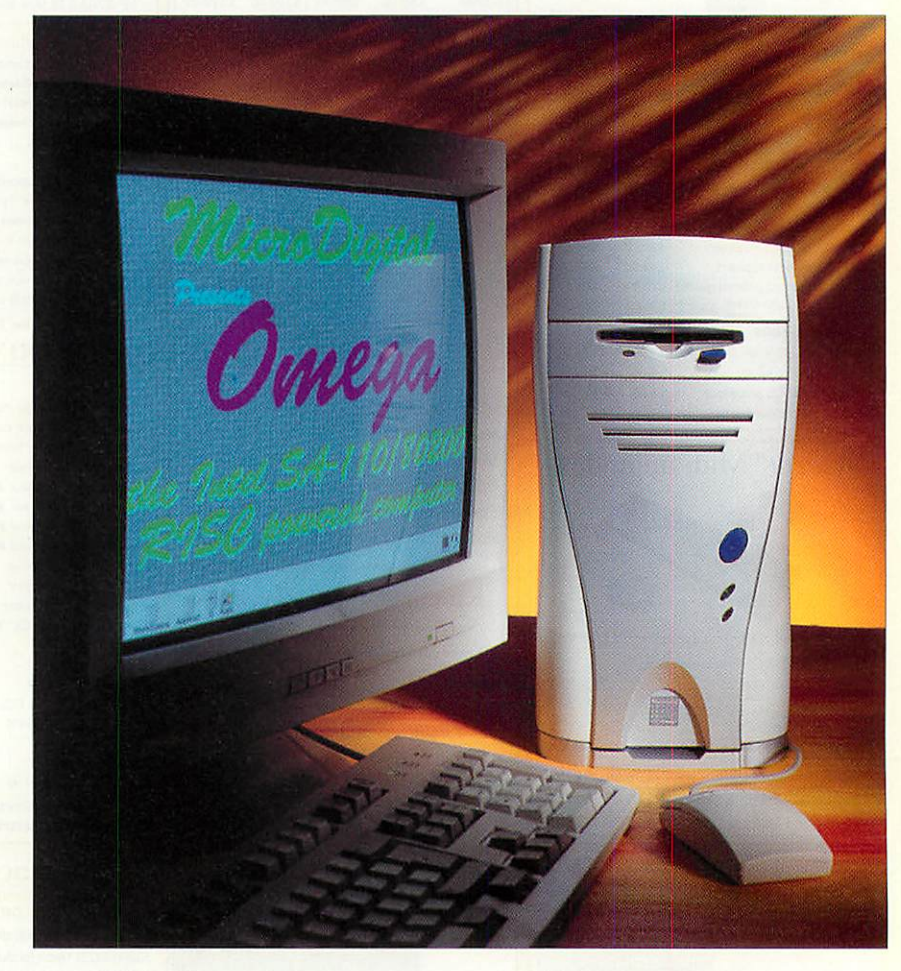
It's a dual processor design featuring the Intel StrongARM SA-110 chip with provision for a second processor like the 600MHz to 1GHz Intel 80200 Xscale chip or an ARM9.

The basic machine comes with 64Mb of PC133 SD RAM which can be expanded up to 1Gb. There are no less than four 32-bit 33MHz PCI slots and four USB 12MHz ports. There are two ATA 66 Ultra EIDE interfaces, a PCI sound card, 20 Gigabyte hard disc, a 52X CD ROM drive, a standard floppy drive, 56K internal modem and, not least, RISC OS 4.03.

The Omega is based around two MicroDigital RISC OS 4 compliant chips which provide the memory controller, graphics and input/output subsystem.

The graphics engine is an enhanced version of the Lightning chip, with both 2D and 3D capabilities. It runs at resolutions up to 1600 x 1200 at 72 Hz with 16 million colours.

David Atkins of MicroDigital is aiming the Omega at the fast-growing Linux market as well as people looking for more power than even a StrongARM can provide. He says the importance of the Omega is immense — it unlocks the twin issues of hardware dependence and 26/32-bit operating system. And, although it's called the Omega, he says it's only the beginning of a great new age in European computing.



The Omega comes in a compact silver and grey tower case. Bigger cases and uprated power supplies are available as optional extras. And there's an impressive software bundle that includes *Pipedream 4*, *Easiwriter* and *Fireworkz Pro*. All for a base price of £999 without a monitor.

Omega won't be available until January 2001 though it should be running at the RISC OS 2000 Show. David Atkins says he wants to make certain the system is free of all bugs. To make the wait worthwhile MicroDigital is offering a special deal for early orders; for an extra £50 the company will fit an 8x8x32 CD writer complete with CD Burn software worth £225. And there's a further discount of £35 off the price of the MicroDigital Intel 80200 XScale second processor.

I wonder how many Omegas will appear on Christmas lists this year?

www.microdigital.co.uk



The digital flasher

Good news for photographers who want to go digital. Your choice of cameras is now much wider thanks to Surftec. *DigiFlash* is a new RISC OS-compatible reader for the most common cards used in digital cameras. That includes the top semi-pro models from Olympus, Nikon, Fuji and the brilliant new D30 from Canon.

There are two versions of *DigiFlash*: one for CompactFlash cards and one for SmartMedia cards. The reader plugs into the parallel port and, once the software has been loaded, an extra disc icon appears on the left of the iconbar. Files can be dragged and dropped onto any other directory in the usual manner. Pictures can even be shared across an Acorn network — ideal for use in schools.

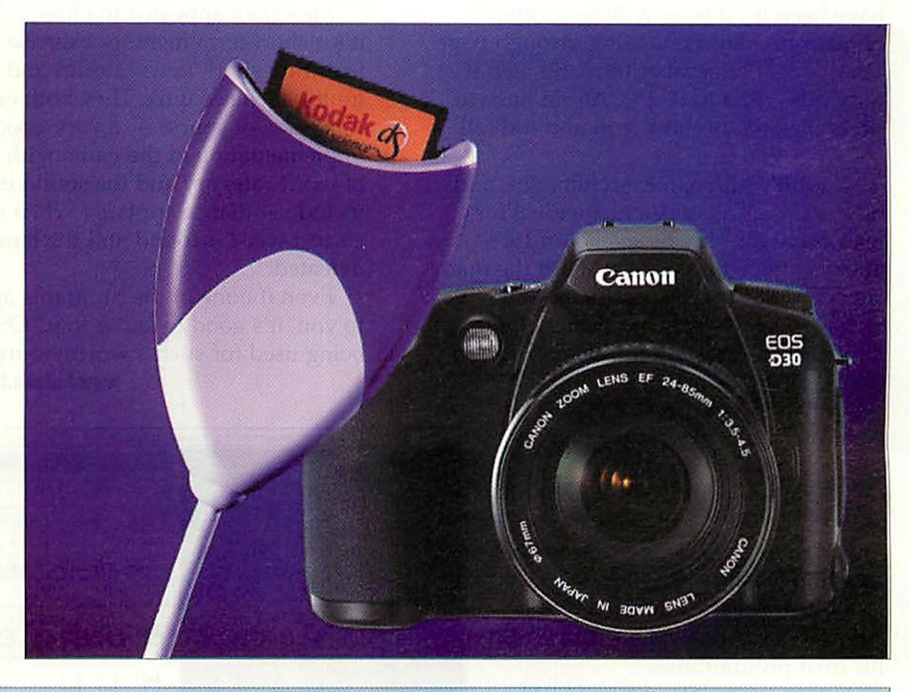
The reader isn't limited to downloading snaps, of course. All sorts of devices like PDAs use the cards.

And don't worry about losing the printer port — the reader incorporates a straight-through connector. No fiddling about round the back of your computer trying to swap cables. *DigiFlash* works on any RISC OS machine with a bi-directional port. So it'll be fine with even quite elderly computers — as far back as the A3000.

The combined hardware and software package costs £79 plus VAT. And for that price you get free software thrown in for downloading your pictures to — well, one of those other kinds of computer.

Surftec is also offering Epson's speedy GT-9500 scanner for £95 and a Risc PC internal modem card for just nineteen pounds.

www.surftec.com



New Ovation Pro CDs

Software news of the month must be that the long-awaited *Ovation Pro* upgrade is at last available, and David Pilling is turning out the CDs as fast as he can.

Among the many new features of version 2.60 are; automatic paragraph numbering and bulleting, an Impression document loader, referenced and proxy pictures, EPS support and graduated, patterned and hatched fills.

There is a revised manual on the CD — in *Ovation Pro* format, of course. And there's a host of other goodies including 20 new iSV font families to augment the EFF fonts that came with the old version. There's also quite a collection of related material — all sorts of useful applets, all of them the latest version available.

And gone is that old Beebug banner. At last. And true to the enthusiast spirit of the RISC OS community, David isn't imposing any copy protection. He's trusting us all to pay up. And I'm sure we will. It's a brilliant piece of software at an incredibly low price. The last time I thought about buying the Adobe (near) equivalent it was something like twelve hundred US dollars!

So the upgrade at £35 is, shall I say, quite good value?

Rumour has it that David is considering porting *Ovation Pro* to 'another sort of computer platform'. Could mean brilliant news for David, for RISC OS and for the computing world in general. Even if he pitches the price considerably lower than the competition, he can expect sales to run in the tens of thousands at least. Some recompense for the — how many hours do you think you've spent on *Ovation* and *Ovation Pro* altogether, David?

For us it would mean many more people could have heard of RISC OS. No more strange people in computer shops going into total confusion when I tell them I don't have a PC or a Mac.

www.netlink.co.uk/users/pilling
www.pilling.demon.co.uk

And following requests from users round the world, you can now book your upgrade by credit card via:

www.liquid-silicon.com



StrongARMing it

The debate about whether schools should use RISC OS machines or PCs has been chuntering on for ages. Recent reports seem to suggest that our favourite platform is enjoying a slight renaissance, and a jolly good thing too — the programs are small, attractive and, above all, easy to learn. That context-sensitive menu system is the best ever.

I spent nearly two hours last week on an Avid trying to remember how to copy an effect from one shot to another. The manual wasn't a lot of help — it might have been if I'd been willing to spend another two hours flogging through page after page. I remember thinking, 'Oh if only this was a RISC PC. All I'd have to do is click on this silly icon and it'd tell me what to do.'

The BBC Micro, the Archimedes, and now, RISC OS computers are ideal for learners at all sorts of levels. And it's always interesting to hear about the many specialist uses of the machines. Since 1985, StrongARM Systems has been helping patients recover from the effects of head injuries using computers.

Dr Curry of StrongARM says he recognised that computers had an important part to play in rehabilitation and decided straight away to go for the BBC computer. He intended to use existing commercial educational software, but after months of research decided that he'd have to start from scratch and write his own programmes.

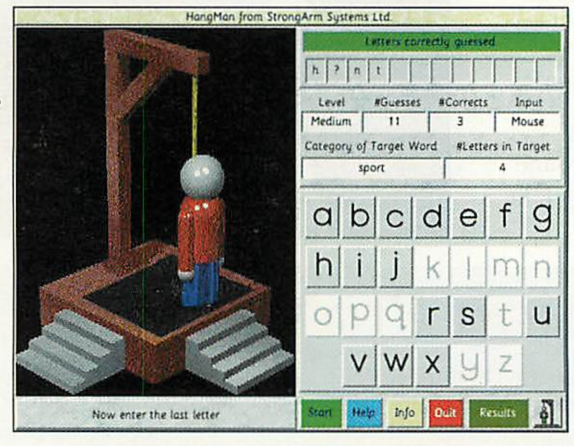
Fifteen years later, StrongARM has over seventy programs available to speed up recovery. They are mostly games and puzzles; maze solving, anagrams, games based on Pelmanism and Simon, geometric puzzles and spatial awareness tests. They're all very colourful, easy to use and there are plenty of cheery sound effects.

Now Dr Curry and StrongARM have released all the games and puzzles as shareware. Many more patients can benefit, and there's no reason the programmes can't be used by anyone. I tried out a couple of examples; *Worms* proved very popular with a five year old. Not for lunch, but guiding a worm round the screen eating apples with a satisfying crunching noise.

MemStory appealed to older children; it's a short-term memory exercise featuring short 'news' stories and a multiple-choice quiz. They both enjoyed *Hangman*, of course — a very good implementation of the game with a choice of word category and the sound effects include audience applause when the correct word is found and the hangman defeated.

Even if none of the programs appeals to you, it's good to know RISC OS is being used for such a worthy purpose.

www.hutchc.freeuk.com



RISCOS Ltd with pretty vacancy

RISCOS Ltd are opening a new office in Cambridge and are seeking to recruit a full time Technical Co-Ordinator to run the office. The job requires good RISC OS Assembler and C programming skills, and would probably suit someone currently at Senior Software Engineer level.

Salary according to experience, but the right person will have the opportunity to make a significant input to the future of RISC OS. You will be responsible for all aspects of the development of future versions of RISC OS for the desktop market. In particular this will mean co-ordinating software contractors working for RISCOS Ltd and controlling access to RISC OS sources by contractors working for Hardware Partners. You will also have to be able to handle technical support enquiries from Hardware Partners and Registered Software Developers, as well as produce technical documentation.

Project management and CVS source control experience are definite advantages, but enthusiasm and a good breadth of knowledge of RISC OS are essential.

Please address applications by e-mail to paul@riscos.com or by post to Paul Middleton, 3 Clarendon Road, Cardiff CF23 9JD

In brief

Roots and branches

Not a gardening calendar, but a program for laying out your family tree in an attractive graphical form. You type in the names, dates, and so on of your ancestors, then you can drag them around, link them and add all sorts of details. I particularly liked the section in the manual that tells you to marry two people by dragging with Adjust held down. Divorce doesn't appear in any menu, and quite rightly so.

***Roots* can import and export GEDCOM files and export Draw files. A large family tree can be printed spanning several linked pages. Best of all, *Roots* is completely configurable, so if you don't like the graphic style, you can select another one. *Roots* is by Alex Waugh and it's shareware.**

The trial version can only cope with a maximum of 25 people or marriages; registering gives you space for unlimited ancestors (presuming you've done enough research) and is costs only £5 by mail or £6 by credit card.

www.ecs.soton.ac.uk/~ajw498

Cannon/Castle sprint

Cumana/Cannon Computing has taken over marketing of the Sprinter network computer from Castle Technology. The machine has been updated and re-released as the Cumana 'R' NC (RISC OS Network Computer).

Basic specification includes 16Mb RAM, 7500FE ARM processor, 10-base T Ethernet card and infrared keyboard and mouse support. Prices start at £299 without a monitor.

www.cumana.demon.co.uk

New art modules

Although Artworks is a brilliant drawing package, it's always suffered from a couple of minor drawbacks (sorry!). Now both those shortcomings have been remedied by two new modules from MW Software.

If you use Artworks to

NEW! for RISC OS 2000

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CompactFlash™ & SmartMedia™ for RISC OS!

Surftec are pleased to announce the launch of our range of CompactFlash™ and SmartMedia™ card readers.

Compatible with all makes of RISC OS computers* and Precedence NCs, they are easily plugged into the parallel port which allows you to download data from CompactFlash and SmartMedia cards, from devices such as Digital Cameras, PDAs, MPEG3 Portable Players etc.

Once the reader has been plugged into the parallel port and PS2 keyboard port (for power), you simply load the RISC OS driver. This device allows other parallel devices to be daisy-chained.

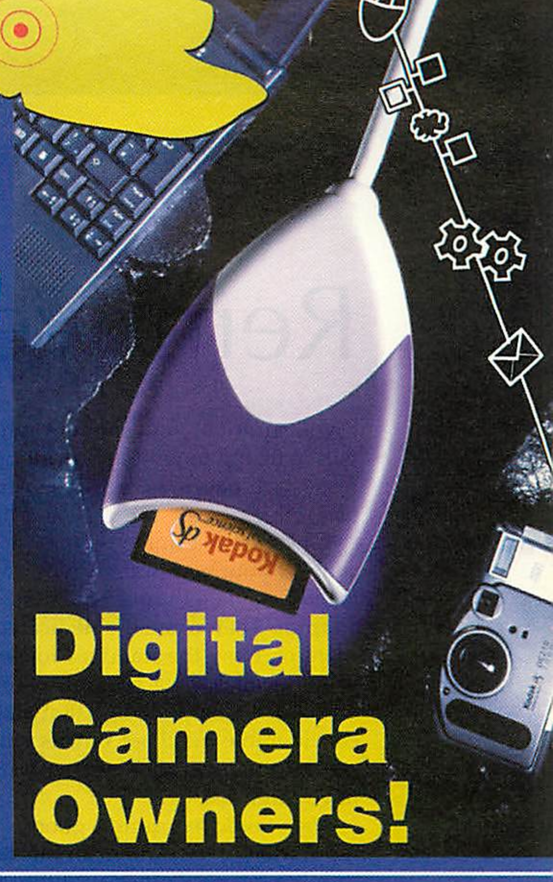
When the software has been loaded, just treat the media like a floppy disc, you can copy, delete and rename files while on the CompactFlash or SmartMedia cards.

The Surftec RISC OS drivers provide an extra disc icon allowing the contents of the media to be read and loaded into your favourite Acorn photo software such as ImageMaster, ChangeFSI etc.

Card Readers/Drivers

CompactFlash Reader (inc Acorn driver)	£79
SmartMedia Reader (inc Acorn driver)	£79
Acorn RISC OS/NC Driver*	£39

* Surftec driver will not work with all types of card reader, and require a bi-directional parallel port.



Acorn Network Computers

NC Bundle System	£370

• Includes **everything** you need; PS2 Mouse, Mouse Mat, Network Cable, **15" Samsung SVGA Monitor**, Keyboard, 2 x Head Phone connectors and good quality Head Phones suitable for school use.

Printers

Epson Stylus Colour 670	£85
Epson Stylus Colour 760	£115
Epson Stylus Colour 860	**£129**

Scanners (Ex-Demo Specials)

All of the scanners below **include** Acorn Twain Driver and **your choice** of parallel or SCSI cable!

Epson GT-7000 with Film Adapter	£140
Epson Perfection 1200S	£196
Epson Perfection 1200S Film Adapter	£69
Image Master with above scanners	£20
Second Hand SCSI Cards	£15-£65

RiscStation Systems

R7500 Lite Base Unit	£499
R7500 Lite with 15" Monitor	£599
R7500 Lite with 17" Monitor	£649
R7500 Lite with 19" Monitor	£749
R7500 Lite Plus Base Unit	£579
R7500 Lite Plus with 15" Monitor	£679
R7500 Lite Plus with 17" Monitor	£729
R7500 Lite Plus with 19" Monitor	£829
Scorcher Base Unit	£769
Scorcher with 15" Monitor	£899
Scorcher with 17" Monitor	£919
Scorcher with 19" Monitor	£1,019
InSite Internet Pack with ext. Modem	£85

RiscStation Systems continued...

Accent 1 Midi Pack, Drivers + Cable	£15
Accent 2 as above with DB51 XG Card	£99
Accent 3 as above with MK149 K'brd	£199

Processors

StrongARM (T) & RISC OS 4 Upgrade	£255
Kinetic Card & RISC OS 4 Upgrade	£399

Hard Disc Drives

Quantum IDE 20.4GB	£95
Fujitsu IDE 20.4GB	**£95**
Maxtor IDE 30GB	£112
Maxtor IDE 40GB	£152
Maxtor IDE 60GB	£194

ATAPI CD ROM Drives

BTC 44x	£29
Samsung 48x	£37
Samsung 52x	£39

Communications

USR 3COM Sportster Modem	£79
Pace Professional ISDN TA	£55
Acorn Modem Card 28.8K	**£19**

Monitors

15" Samsung	£99
17" Iiyama S700	£149
19" Iiyama S900	£209
21" Iiyama Vision Master 503	£624
22" Iiyama Vision Master Pro 510	£645
14.1" Iiyama TFT LCD XGA	£675
18.1" Iiyama TFT LCD SXGA	£1,985

All products listed here come complete, all necessary cables are supplied as standard at no additional cost!

Free telephone support is available on all products.

If you find a product at a lower price elsewhere, please contact us and we will attempt to match or better that price!

NB: We now welcome International orders and can accept payment in your local currency saving you a lot of time and trouble!

The RISC OS 2000 SHOW

See us there! Stand U18

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E-Mail: sales@surftec.net
WWW: http://www.surftec.net









Remove that squint

If you squint at your monitor when you're trying to read tiny print on fussy Web pages, here's some very nice, clear news.

Once upon a time you had to connect your computer to your television via a radio frequency adaptor. Then came the dedicated 14in monitor. Now the standard for serious users seems to be a 17in multiscan monitor. Three years ago that was a considerable purchase but, as with much in the world of electronics, prices have tumbled.

ViewSonic has quite a good reputation in the American market, but didn't have very much visibility in Europe until it took over Nokia's monitor division earlier this year.

Now it's released two models that seem particularly good value for money; the 510L, a 15in liquid crystal screen, and the 710C — a 17in traditional cathode ray tube device.

The 510 is less than three inches deep — slightly over six centimetres in old money. Its standard resolution is 1024 x 768 at sixteen million colours and it has a particularly high contrast range — 350 to 1.

Like all LCD screens it is totally flicker-free, and is particularly suited to brightly-lit areas. Nokia quotes an output of 210 nits. I asked what nits are and was told candelas per square metre! So there. For you and me it means very bright, okay?

And you won't burn it out running it that hot (actually LCDs run very cool, but you know what I mean) — the backlight life is rated at 35,000 hours. That's four years of continuous running. Or about twenty five years if you're an average user.

LCD monitors are getting much more affordable, too. The 510L's list price is £599 — not so bad when you consider that's just about the same as you'd have had to pay for a standard 17in monitor three years ago. And that includes three years comprehensive warranty. Viewsonic says it expects the monitor to sell in large number for office use and point-of-sale displays.

The monitor that'll be of most interest to you and me, though, is the 710C. It has a 17in screen (16in viewable, says Nokia — I wonder how these things are calculated), a maximum resolution of 1280 x 1024 at 85Hz so it shouldn't show the slightest bit of flicker. Dot pitch is 0.25mm — up there with the rest of the fine resolution monitors.

The 710 has a couple of extras that might surprise you; two integrated speakers with five watt amplifiers, and a microphone. Nokia says that's not at all surprising — more and more Web pages feature sound enhancement, and the monitor is perfect for teleconferencing.

It's apparently easy to set up with on screen guidance and a robust memory for settings — so it says here.

Price? just £199. Particularly good value when you consider that includes three years on site warranty with Nokia's Express Exchange included. Talk to your local dealer.

www.viewsonic.com



This is the 510L, not the cheaper 710 – which is a CRT monitor

In brief

produce web graphics, you probably convert each picture to a sprite with ArtToSprite, then to a GIF with Peter Hartley's *InterGif*. The new module enables direct export of any Artworks picture as a GIF. It will also export as a sprite, so it's doubly useful.

And, if you've always longed for an isometric grid option as with the humble *Draw* program, the Grids module will make you a happy chap. It adds rectangular, isometric and circular grid options.

BMExport costs £15, and Grids just £10.

www.mw-software.com

RIP Spacetech

Spacetech is dead. Long live Photodesk Limited. Though the differences are rather minor. Chris Hornby has bounced back into action and is working on *PhotoReal* printer drivers, *OHP* software and a new version of the *Photodesk* imaging software. In fact, he's already planning expansion and is looking for programmers.

www.photo-desk.com

Canon price wars

Canon's slow but immensely capable colour printer is now out of production, but there are still plenty around.

Spare parts and ink cartridges are guaranteed to be available for at least seven years, so if you're looking for a colour printer that produces brilliant photograph quality on ordinary plain paper, you could find a bargain.

The original price was just under three hundred pounds. Explan is selling the 7100 for £167 complete with drivers for RISC OS; Photodesk has a few in shop-soiled packing and minus cartridges for just £110 with PhotoReal drivers for RISC OS and ... those other computers.

www.explan.co.uk
www.photo-desk.com

Contacting AU

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Acorn

Kinetic Risc PCs

Kinetic (64+4+2Mb, 10Gb HD, 44x CD)	£1179.00
Kinetic Internet (128+8+2Mb, 30Gb, 44x, 56K)	£1409.00

StrongARM Risc PCs

Risc PC 8+0Mb, 2Gb HD	£890.00
Risc PC 16+0Mb, 4Gb HD	£948.00
Risc PC 16+2Mb, 4Gb HD, 40x CD	£1039.00
Risc PC 32+2Mb 8Gb, DVD CD	£1099.00
Web Wizard – 32+2Mb, 8Gb HD, CD, speakers, Internet pack with Oregano & 56K modem	£1179.00
Sprinter – 10baseT NC, 16Mb, kbd & mouse	£361.00



RiscStation Series

R7500 Lite (no monitor)	£598.00
R7500 Lite (with their 15" monitor)	£715.00
R7500 Lite (with their 17" monitor)	£774.00
R7500 Lite (with their 19" monitor)	£891.00

The Lite+ model is the same as the Lite, but has an 8.4Gb HD and 64Mb RAM fitted as standard.
R7500 Lite+ — To Lite prices, please add £94.00

The Scorcher model is the same as the Lite, but has a 10Gb HD and 64Mb RAM fitted as standard, plus at least a 4x4x24 CD ReWriter, CD Burn and a blank disc.

R7500 Scorcher — To Lite prices, please add £315.00
R7500 Scorcher Twindeck (as Scorcher, with additional 48x CD drive) — To Lite prices, add £349.00

POSsum EPOS system — £Call

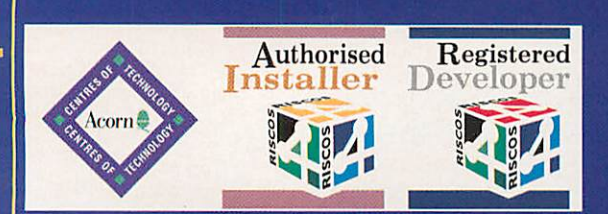
The Networx model has the same specifications as the Lite but has no HD or CD fitted as standard. Monitors available for the same price differences as with the Lite.
R7500 Networx (no monitor) — £480.00

The Networx HD model is the same as the Networx, but has a (minimum of) 2Gb HD fitted as standard.
R7500 Networx HD — To Networx prices, add £59.00



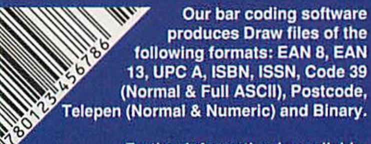
Psion Computers

Revo	£284.95
Series 5mx	£408.50
Series 7	£664.95
netBook	£870.00



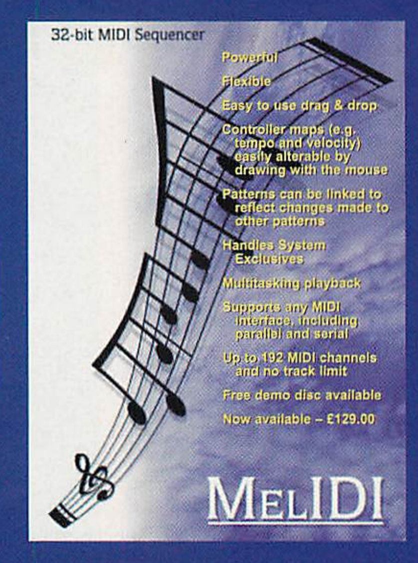
We supply a range of CCD and laser bar code scanners which include our !BarReader driver software to allow bar codes to be read into and control most desktop software.

Further information is available.
Complete systems from £137.63



Our bar coding software produces Draw files of the following formats: EAN 8, EAN 13, UPC A, ISBN, ISSN, Code 39 (Normal & Full ASCII), Postcode, Telepen (Normal & Numeric) and Binary.

Further information is available.
!BarCoder – £69.32



Monitors

Castle 15" (bought with A7000+ or RPC)	£116.32
Castle 17" (bought with A7000+ or RPC)	£175.00
iiyama S500M1 (15")	£159.00
iiyama S700JT1 (17")	£205.00
iiyama Vision Master 404 (17")	£269.00
iiyama Vision Master Pro 410 (17" NF)	£299.00
iiyama Vision Master Pro 411 (17" NF)	£269.00
iiyama S900MT1 (19")	£269.00
iiyama Vision Master 451 (19")	£415.00
iiyama Vision Master Pro 450 (19" NF)	£439.00
iiyama Vision Master 502 (21")	£765.00
iiyama Vision Master Pro 510 (22" NF)	£789.00
iiyama Pro-Lite 3612 (14.1" LCD)	£826.00
iiyama Pro-Lite 3813 (15" LCD)	£802.00
iiyama Pro-Lite 3823 (15" LCD)	£825.00
iiyama Pro-Lite 3833 (15" LCD)	£1020.00
iiyama Pro-Lite 4633 (18.1" LCD)	£2340.00
iiyama Pro-Lite 4634 (18.1" LCD)	£2340.00

Touchscreen monitors coming soon.

Memory Upgrades

Please call to check current prices.
Other upgrades are available.

A3000 1-4 Mb	£64.60
A3010 1-4 Mb	£66.00
A3020/A4000 2-4 Mb	£49.00
A5000 2-4 Mb	£55.00
A300, 400, 5000 4-8 Mb	£128.00
Risc PC/A7000/RiscStation/Mico SIMMs:	
16Mb FPM	£36.25
32Mb FPM	£66.25
32Mb FPM (high clearance)	£73.50
64Mb EDO (works in Risc PCs)	£63.50
64Mb FPM	£153.95
128Mb FPM HC	£225.00
1Mb VRAM	£45.00
1-2Mb VRAM exchange	£55.00
2Mb VRAM	£92.00

Music & Sound Section

Please call for other musical items

MIDI interfaces:	
DMI 50 dual MIDI card (2x2)	£119.95
DMI 50XG	£259.95
XG upgrade for DMI 50	£151.95
16-bit sampler for DMI 50	£87.95
MIDI Max II internal 1x1x1	£92.75
Parallel Port 1x1x1	£89.20
RiscStation drivers & cable	£17.95
RiscStation XG card & cable	£116.95
RiscStation XG card, cable & keyboard	£245.95
Synth 8 or Basic Synth	£46.95
Synth Plus	£58.65
Music & Sound Programmer's Guide	£16.95
Other hardware:	
Evolution MK149 keyboard	£125.00
Fatar SL 760	£450.00
Fatar SL 880	£600.00
Fatar SL 1100	£800.00
Fatar SL 2001	£1050.00
Digital & Analogue Irlam i16 sampler	£175.00
Sound Byte Recorder	£57.50
Yamaha YST-M8 speakers	£45.50
YST-M15 speakers	£57.50
YST-M20 DSP speakers	£65.75
YST-MS24 (2x satellites & subwoofer)	£109.95
YST-MS30 speakers & subwoofer	£149.00
YST-M100 speakers	£117.00
YST-MSW5 subwoofer	£59.00
YST-MSW10 subwoofer	£71.20
Yamaha MU15 sound module	£199.00
Yamaha MU128 module	£744.00
Other software:	
MediaPack	£23.95
MIDI Support	£18.50
Rhapsody 4	£94.95
Junior Sibelius	£49.00
Sibelius 6	£99.95
Sibelius 7 Student	£319.95
Sibelius 7	£520.95
Sibelius for Windows is also available	
Optical Manuscript	£259.00
Sound module serial driver	£37.95
Studiosound	£116.95

Other Hardware

Ethernet card (Combi NIC slot)	£116.30
Hard drives & kits	£Call
Mouse (Ergo)	£14.95
Mouse (Acorn/Logitech)	£23.95
Mouse (PS/2 Logitech)	£12.95
Printers	£Call
RPC second slice (no PSU)	£95.00
RISC OS 4 (fitting available)	£120.00
RiscStation internal modem pack	£99.95
RiscStation second serial port	£Call
Scanners	£Call
StrongARM & RISC OS 3.7	£269.00
StrongARM & RISC OS 4	£299.00
Triple serial card	£99.95
ViewFinder card	Approx. £235.00

Other Software

Ankh	£23.00
ANT Internet Suite 2	£112.00
CD Burn	£55.95
Chaos Engine	£19.50
DataPower 2	£165.00
Doom+ CDs	£30.00
EasiWriter Pro+	£139.95
Exodus	£22.00
FastSpool+	£17.50
Frak	£14.95
Impression Style	£88.00
Impression Publisher	£135.00
Inferno	£9.50
Netplex	£39.25
Oregano CD	£57.50
Ovation Pro	£139.95
Overload	£12.99
PC Pro 3	£70.00
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Quake	£22.00
Repton Compendium	£18.00
Schema 2	£121.50
SiteWriter	£58.95
Sound Plugin	£11.50
SVG Plugin	£11.50
Sleuth 3	£76.95
TBA CD	£20.00
TechWriter Pro+	£189.95
TopModel 2	£145.00
WebFX3D	£24.50

Books & Manuals

RISC OS Manuals CD	£29.95



Discs (e.g. 10x white discs – £4.99, 20x black discs – £6.93, 50x black discs – £13.99)
Batteries (e.g. 4x AA Xtra alkaline – £1.96, 1x 9V alkaline – £1.92)
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Can we survive?

Chris Hughes lays it on the line

We can, but if we are it will only come about as a result of the determined and combined efforts of everybody involved: The custodians and improvers of RISC OS; the designers and manufacturers of major hardware; the developers of software and hardware add-ons; the RISC OS magazines, journalists and publicists; the dealers and distributors; and finally, the major point of contact with the outside world, the unique and irreplaceable hard core of dedicated user believers. The watchword must be *Focus* something which has sadly been lacking for far too long.

In the beginning it was all too easy. When 'Auntie' in the shape of the BBC was looking to promote computer literacy, they chose the ideas and designs of a brilliant team of the very best young brains in Cambridge to provide their solution.

The BBC Micro at the time of introduction was a potential world beater with ease of use and simplicity. It offered an incorruptible and compact operating system, backed up by a logical and structured programming language providing a superb educational tool.

Not only in schools, national and local government, adult and higher education all got into the act and a whole slice of the population came to know the joys and potential of personal computing.

Many of these people began to write software both for their own enjoyment, but even more important to help them in their professional and business lives and some wonderful programs were the result.

Unfortunately the technical brilliance of Acorn was badly let down by their inertia, and total lack of marketing ability. While they remained stuck in their cosy cocoon, the rest of the world moved on and numerous cheap and flashy newcomers took most of the UK non-educational market. Inevitably this resulted in the sidelining of RISC OS until today it is almost a best kept secret.

So what other markets can we sell into? Well that depends largely on new software being developed and that's where 'catch 22' comes in, without the software its difficult to sell into new markets.

Without advertising who will invest in developing the necessary software for these other markets? It seems the various suppliers are entirely unable, or unwilling, to promote the platform strongly enough outside our cosy little cocoon. Have we not yet learnt from Acorn's mistakes?

Why, you might ask, am I worried about this? Well the answer is simple. I keep being told Acorn 'oh those old BBC B's what ancient things, they are dead now, you need a modern PC' or 'I thought they died years ago', and so on.

The simple fact is no one seems to know the RISC OS world still exists, simply because no one except those already in the Acorn/RISC OS market (and there even some of them don't realise we still exist), due in the main to a total lack of advertising and promotion to a wider audience.

So what do we do? Well the basic tools of business software are word processing, DTP, spreadsheets and forecasting, data handling and management, accounts and ever more important access to the Internet and e-commerce.

RISC OS has a small number outstanding programs – *Easi/Tech Writer*, *Textease Studio*, *Compo*, *DrawWorks New Millennium*, *PhotoDesk* and *Ovation Pro* are all first class products but they must be promoted much more aggressively.

To supplement existing applications, it is vital that we get a more capable spreadsheet to stand up to *Excel*, much better Internet software and easy network connectivity.

And, of course Pace and RISCOS Ltd have to provide us with a genuine, hardware-independent 32-bit operating system among other things, such as improving printer drivers, to allow us access to a larger range of printers.

Developing other platform standard interfaces (USB/PCI) for the RISC OS world would dramatically increase the availability of scanners, digital cameras, and other peripherals.

Approaching people like the Federation of Small Business in UK might be a good start. Carefully promoting the RISC OS system as reliable and simple to learn and use with its long life and low running costs.

Being prepared to supply total systems, with the necessary software, bundled to promote the whole product. In a small way this has already started with both RiscStation and Castle bundling some third party application with their computers.

We must target growing markets like Russia, China, and South Africa. China in particular holds strong anti-Microsoft views, and would welcome a reliable proven alternative.

It can be done, for example look at Millipede in the broadcast TV market, RiscStation Australasia's innovative Possum system, and Si-Plan providing solutions to engineering industries. All these examples are sold as a complete systems or where users don't realise they are relying on RISC OS.

Let's hope the powers that be realise, they *must* advertise and promote RISC OS outside our cosy little world or we will die.

END

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RISC OS 4



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  RISC OS has a reputation for having the world's most efficient desktop interface, and RISC OS 4 improves it still further with new desktop enhancements, improved stability and even greater user-friendliness
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Price **£120** *(fully inclusive)*

Schools: Schools may purchase an evaluation copy of RISC OS 4 for **£69 ex. VAT** *(strictly one unit per school; official purchase order required)*

All the documentation you need!

Manuals CD

Get the complete RISC OS 3 Programmer's Reference Manual (PRM) on one CD-ROM, along with a plethora of other user guides



The Manuals CD contains not only the PRM but also many other manuals, all corrected and cross-referenced in HTML format. Many guides are also supplied as *Acrobat* (PDF) files. The complete contents of the CD are as follows:

	HTML	PDF
RISC OS PRM volumes 1–4	✔	✔
RISC OS PRM volume 5a	✔	
RISC OS User Guide	✔	
BBC Basic	✔	✔
Assembler	✔	✔
C/C++	✔	✔
Toolbox	✔	✔
DDE	✔	✔
Internet	✔	
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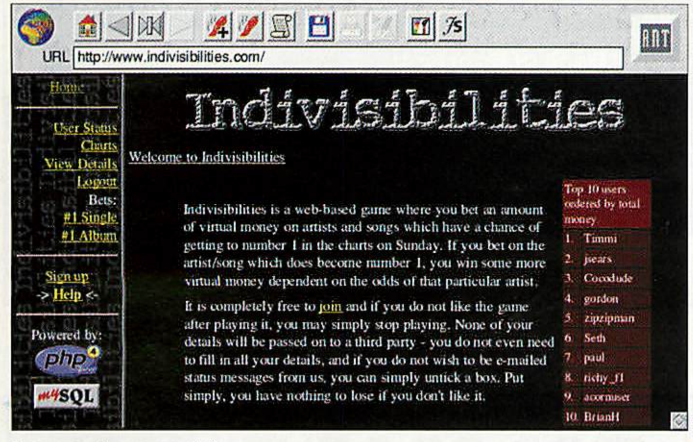
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One for the money

Not just a word with seven letter i's in it, *Indivisibilities* is a Web-based betting simulator game devised by Marc Warne. Although no real money changes hands, players who are fans of rock and pop bands and who have one ear to the radio and the other to the music business, bet virtual money on which single or album they think will be listed as Number 1 in the next official Sunday music charts.

Marc's Web game was developed and created on a Risc PC connected via a serial network to his *Windows* laptop PC. The game was programmed for a server running *PHP* and *MySQL*, and the pages were viewed and checked using *Fresco*. The game site is hosted by James Sears' **acornusers.org** web-hosting service, which offers 20Mb web space and your own domain name for £85 per year. Check out **www.acornusers.org/net/** for more details. New *Indivisibilities* users get a virtual credit of £2000 to start off with, and the winnings or losses are calculated weekly and each registered user receives an e-mail telling of the good or bad news.



Bet you can't see our position

Marc doesn't think real money could be legally used, but does intend to give prizes such as CDs to users who consistently make the best guesses.

Indivisibilities
www.indivisibilities.com

Pangill bows out

In August 1995 there were twenty-two dial-up Bulletin Boards located in the UK with Acorn-interest areas. By August 2000 the BBS count had dwindled to just six. Peter and Niki Gillham's Pangill BBS, located in Didcot, Oxfordshire was one of the six.

Peter was already a keen BBS user by the end of the 80's, and had spent a lot of online time downloading files from Acorn-interest BBSs. He felt it was now time to give something back to other people in the Acorn online community, and so Pangill BBS was born.

Pangill originally ran on an A3000 using Carl Declerck's freeware RiscBBS software. Peter persuaded his wife to let him use the voice phone line late at night until early in the morning for the BBS. RiscBBS wasn't easy to get going, but with help from BBS sysops Robin Abecasis, Keith Hall and John Stonier, Pangill started getting callers.

A software upgrade to Keith Hall's ArmBBS followed, and in the next couple of years users swelled to around 150 regular callers. Then one summer night disaster struck as a lightning bolt to the telephone lines fried the A3000. With some savings and the insurance claim, Peter was able to buy a Risc PC 600, and Pangill was back up within a couple of weeks.



Early in 1998, Peter moved to Didcot and installed a second BBS phone line allowing 24 hour operation. But easier Internet access was luring away callers, and Peter felt that this year the end would be inevitable, and reluctantly he closed Pangill BBS at the end of September.

Dialling the Internet today can't compare with that first exciting moment in the days when the Web was just a twinkle in the eye of Tim Berners-Lee, when you heard a BBS modem answer your call, and you knew that of all the people trying to connect, it was you that had got in!

In brief

You've been swiped

Swipe by Andrew Stubbs and Thomas Leonard will help frustrated *Fresco©*, *Browse* and *WebsterXL* owners to emulate *Windows* users by allowing them to swipe a bit of text from a Web page and copy it into another document, or pick out a Web address and copy it into the Browser URL bar.

Although the *Oregano* browser's custom font manager defeats it, *Swipe* can grab text from almost anywhere else.

www.astubbs.f2s.com/swipe.html

Any axes to grind?

The *TelecomsAdvice* Web site operated by Crucible Multimedia of Sheffield has some interesting and useful information for both small business and home Telecoms and Internet users. FAQs and information sheets currently include discussions on unwanted telesales calls, converting mobile phone accounts to pre-pay, costing Web site creation, using indirect access services — those that use a dialler box or four-digit number prefix — and Internet law.

TelecomsAdvice
www.telecomsadvice.org.uk

Egg samples

Defined as "any amusing tidbit that creators hid in their creations", the Easter Egg Archive is a Web site that lists thousands of them in computer software, films, music, art, books and even your digital watch. For example choose the computer operating systems option, and you'll find Easter Eggs in the BBC Micro ROM and in RISC OS, including the Invaders game hidden in RISC OS 4. Hardware "eggs" are also listed, like the *US Robotics* modem response to ATUSRX.

Easter Egg Archive
www.eeggs.com

Contacting me

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Shanghai noon on screen?

I thought I'd take a small diversion from serious applications and mention a couple of games available for RISC OS machines. The first, *Shanghai*, is by yours truly and was written in reply to a number of requests I received via the Acorn newsgroups for an up-to-date version of this classic Chinese board game.

For those of you who don't know: *Shanghai* is a patience game with fairly simple rules. There are 144 tiles, consisting of four each of the following tiles;

• Nine 'stick' (suozi or tiao) suit of pieces numbered 1 to 9

• Nine 'wheel' (tongzi) suit of pieces numbered 1 to 9

• Nine 'number' (wànzi) suit of pieces numbered 1 to 9

• Four 'wind' tiles, representing the four compass directions (east, south, west and north)

• Three 'dragon' files (red, green and white)

• Four 'flower' (huapái) tiles (Plum, Orchid, Chrysanthemum and Bamboo)

• Four 'season' tiles (Spring, Summer, Autumn and Winter)

Randomly ordered pieces are arranged on a rectangular grid, some placed on top of others forming a shallow pyramid.

You must remove two matching tiles at a time, with the aim being to remove all tiles from the board — additionally, in the shortest possible time. A piece can only be removed if it is not overlapped by another and has a free space either to the left or right of it. The game ends either when you remove all the tiles, or when there are no more legal moves.

My RISC OS version can tell you how many moves are possible at any time (depending upon the level) and optionally give you a hint. However, asking for a hint will add a ten second penalty to your score.

Once you have removed two tiles you cannot generally replace them. However, this version includes an unlimited undo feature, if you decide that you really didn't want to remove the tiles you did. For each undo, you get a twenty second penalty, so you won't reach the high score table much if you 'cheat'!

If you succeed in removing all the tiles, you will make it to the high score table if your time is quick enough.

Due to popular demanD I've also created an online high score table so that you can e-mail me your top scores — and see how good other users are.

Knowing how discerning RISC OS users are, I've provided several options to enable users to customise the look of *Shanghai*. You can design your own tiles and backdrop images as well as selecting from a range of coloured 'plain' backdrops. For clarity you can also adjust the actual spacing of the tiles on the board.

Shanghai is freeware and available to download from **www.vigay.com/riscos/apps/shanghai.html**



Many coloured balls

One of the most colourful and manic games available for RISC OS machines has just received an overhaul by it's author Iain Mcleod.

Spheres of Chaos is a futuristic version of that old arcade classic: *Asteroids*. However, *Spheres of Chaos* is also a demonstration of how you can improve upon a fairly basic game by adding lots of colour, graphics effects and detailed explosion effects.

There are numerous levels, each containing new varieties of 'meanies' intent on destroying your little spaceship, which you must manoeuvre out of their way or ideally, blast everything that moves in order to clear the screen of drifting debris.

One of the stunning things about *Spheres* is the level of graphical detail. Every explosion produces a mass of exploding pixels which fly across the screen.

Some of the meanies on later levels even create spiral or circular trails behind them. This can often lead to the screen being a mass of coloured dots, which in turn can lead to confusion or, more often, gasps at the effects.

Players with a more nervous disposition can select from a number of options to make the game less manic, by turning off the pulsating background or limit the trails left behind by objects.

Spheres of Chaos is available to download from **www.chaotica.u-net.com** and is shareware — so please register if you continue to play it.

Pick of the pops

One of the features of my new RISC OS links page at **www.riscos.org/links.html** is to automatically generate a list of the top twenty visited links in my database. I thought I'd reproduce the list here so that people can see the most visited links.

If you're a shareware or PD author and your software is not listed in the database please complete the form on the page on the Web site and I will add a link to your software. You never know, your program might make it to the Top Twenty:

1	**http://www.acornarcade.com/**	Acorn Arcade
2	**http://www.neutralino.demon.co.uk/software.html**	RealAudio
3	**http://www.geocities.com/SiliconValley/Horizon/4471/dev.htm**	DigitalCD
4	**http://www.tnpsoft.co.uk/stronged/**	StrongED editor
5	**http://louis.ecs.soton.ac.uk/~snb94r/arcweb/arcweb.html**	ArcWeb
6	**http://www.zap.uk.eu.org/**	Zap editor
7	**http://login.dknet.dk/~henrik/**	Flash player
8	**http://rcswww.urz.tu-dresden.de/~teich-p/asoft.html**	MPEG2
9	**http://www.adamseeley.freeserve.co.uk/acornsitepd/games.htm**	Alerion
10	**http://www.cybervillage.co.uk/acorn/emulation/**	Acorn Emulation Page
11	**http://www.arcsite.de/hp/cms/emdf.html**	Monitor definition files
12	**http://www.riscster.cwc.net**	Riscster online MP3 music
13	**http://people.a2000.nl/lsmiers/index.html**	Display Adobe PDF documents
14	**http://www.alphapro.demon.co.uk/Acorn/isis.html**	Freeware spreadsheet
15	**http://login.dknet.dk/~henrik/**	MPEG decoder and encoder
16	**http://midnightrealm.org/~koschei/code/riscos/**	Swatch iBeat clock
17	**ftp://freenet.barnet.ac.uk/pub/Acorn/acornet/**	Freeware internet suite
18	**http://www.soup-kitchen.demon.co.uk/software/socketeer.html**	Internet dialler
19	**http://www.compsoc.man.ac.uk/~tjd/APPS.HTM**	Shareware spreadsheet
20	**http://www.yeti.dk/rsoft/index.html**	Monitor Definition File editor

NewSet of changes

One benefit of RISC OS is the ability of certain filetypes to be 'seen' when you load or open specific applications. This is done by setting an 'alias' which tells the computer what to do when it encounters certain types of file.

For instance when you double-click on an HTML file, RISC OS will go off and load a Web browser such as *Fresco* or *Oregano*. When you double-click on a *Pipedream* file, *Pipedream* will be loaded and so on.

On the whole this works very well, with only two problems. If a suitable application has not been seen you get the rather uninspiring "An application that loads this type of file has not been seen by the Filer" and you're left wondering what to do with the file.

A second problem arises when two applications claim the same filetypes so that for instance, you double-click on an HTML page expecting *Fresco* to load and *Oregano* loads instead. This is more noticeable when loading various graphics formats, as there are numerous utilities which each load JPEG and GIF images.

This second problem has been solved by Richard Coleman who has written a small module which prevents changes to aliases. It allows non-existent aliases to still be set so that the first application seen can 'claim' the filetype, but any subsequent changes to the alias are prevented so that if any further applications that claim the same filetype are seen, the alias is simply ignored.

Of course, this relies on you to boot your applications in the order you want filetypes to be claimed, but once you've configured your system it should result in less hair-pulling when the wrong applications claim your files.

NewSet is available to download from Richard's Web site at www.argonet.co.uk/users/coleman/downloads/index.html

If any programmer feels like writing an application to solve the first problem mentioned above, I'm sure it will ensure fame and fortune! Well, maybe not, but at least a mention on these pages.

Contacting AU

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pdpage@acornuser.com



Art for Artworks

It seems that the usual 'first column' in *Acorn User* includes a self-introduction from the columnist. I'll simply refer you to last month's issue which featured my company, Fleur Designs, and our use of various items of RISC OS hardware and software.

One item that we had to miss from last month, due to space constraints, is the software we use. To put that right they're included below and repeated with additional details on my Web page at **www.cartmell.demon.co.uk**

In last month's story I mentioned, in passing, Martin Würthner's latest plug-ins for *Artworks*. Martin has produced a whole range of modules but none since before his newsletter #26 in December 1998 when he mentioned that he was working on a bitmap export module. Colin Sutton reviewed Martin's earlier plug-ins in the *Acorn User* Christmas 1999.

Martin has been exceptionally busy elsewhere since newsletter #26 but #27 finally arrived this August announcing the imminent arrival of a Sprite/GIF export module. Somewhat cheekily I took advantage of Martin's re-appearance in my Pluto's Box List and asked him about the lack of isometric grids in *Artworks*; a deficiency that had forced me to postpone the design of a hexagonal-based game. Two weeks later the *BMExport* module was released followed one week later by the *Grids* module which provides isometric and circular grids (in addition to improvements to the rectangular grids). The additions were worth waiting for.

Even though Martin is in Germany getting hold of his software is easy — certainly for those with e-mail facilities — as Martin asks you to send an e-mail to him when posting your cheque and he e-mails the modules to you. He will also send software by post for those without an Internet connection.

The BMExport module allows you to very easily export *Artworks* documents as Sprite and GIF files and allows lots of options to make preparation of Web graphics a doddle — they must be as I successfully used the program for exactly that task within minutes of receiving my e-mail from Martin.

For some reason *Artworks* was produced without the isometric grid present in *Draw* and effectively took a step backwards when Cerilica *Vantage* was seen to also have a circular grid. Now, with Martin's latest module, *Artworks* is up-to-date.

Due to Martin's hard work, *Artworks* remains a powerful tool for RISC OS designers and development continues; he has whispered that he is currently developing a rather powerful module called "Text Area" which will offer rotated, multi-column text areas with the usual word-processing features. If Martin keeps to his schedule it should be released within a couple of weeks of your first reading this column.

On top of all this work on plug-ins Martin will also be hosting a support page on **www.mw-software .com** which will include details of workarounds and bug-fixes for general Artworks problems, including the infamous "Clipping has failed due to lack of memory" that has finally been fixed by Matthias Seiffert

The real Vantage

This month's emphasis on Artworks shouldn't hide the fact that Cerilica's Vantage is now close to its final release version. Those of us who bought the pre-release version now have 0.95 and 0.97 is the current version in-house.

Cerilica tell me that they are now testing new bitmap export options including sprites with deep alpha channel, CMYK sprite, PNG and TIFF. In addition to bug removing they are also adding an option for the page spine to be right, top or bottom as well as on the (default) left.

Apparently there's to be one further (very soon) pre-release version before the final release. I'll let you know when I get my hands on v1.00.

Software used by Fleur Designs

Ovation Pro	David Pilling	**www.pilling.demon.co.uk/ovationpro/**
DrawLots, DrawRot	Rosemary Miskin	**www.argonet.co.uk/users/miskin/**
DrawWorks New Millennium	iSV	**www.isvproducts.co.uk**
Family	Dennis Howe	**http://wombat.doc.ic.ac.uk/acorn/denis/**
ArtWorks	Computer Concepts	**www.cconcepts.co.uk**
and plug-ins	Martin Würthner	**www.mw-software.com/software/awmodules/**
Compo	Clares Micro Supplies	**www.claresmicro.com**
TableMate	Dalriada	**www.dalriad.demon.co.uk**
Teletext+	Octopus Systems	**www.octosys.co.uk/index.html**

Contacting AU

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DrawWorks New Millennium is the best choice for graphics software for RISC OS, why? Simple, it is very easy to use, many amazing effects can be done just by clicking on a few buttons. Text bent around circles, 3D effects, outline effects and many more are accomplished with just a few mouse clicks.

Secondly DrawWorks New Millennium offers professional level features at a friendly price. Export to PC or Macintosh computers is easy and quick, you can even make GIF files for websites.

Thirdly DrawWorks New Millennium is based on Draw. This means that any file made with DrawWorks can be saved out into any application that can load Draw files. All of the graphics in this advert were created with DrawWorks.

DrawWorks New Millennium comes with a comprehensive on-line manual that makes it easy to search for exactly what you want. Nor sure how to make a stencil, type in stencil and and manual will tell you how to do it.

Not only that but DrawWorks New Millennium comes on CD and is supplied with almost 2000 example clips, almost 2500 superb quality fonts, Mr Clippy the clip art manager, FontFiend the font editor and lots lots more. Not only can DrawWorks handle vector graphics but it can also edit and manipulate bitmap images as well.

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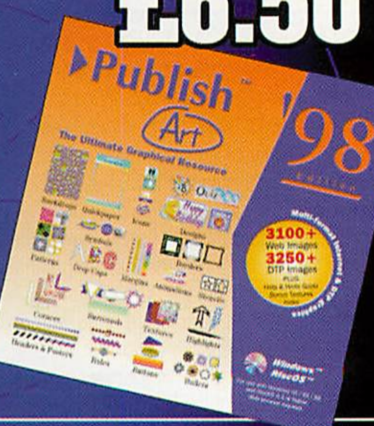
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Last of the first

Steve Turnbull reports on the computer that no one was expecting

When people talk about manufacturers of RISC OS computers they say "Castle and Riscstation ... Millipede eventually ... oh yes, and MicroDigital".

MicroDigital is a company that's never really been part of the mainstream of RISC OS thought. Castle have the Acorn badge so automatically are in the front, while Riscstation have exciting products — and talk about even more exciting ones.

But MicroDigital? We've had the Medi — wild colours, solid construction, no sales. Then there's the Mico, good build quality but not in wild varieties

Frankly the announcement of a new StrongARM/PCI machine is the best news the RISC OS market has had since the formation of RISCOS Ltd. MicroDigital may have been the lesser known of the three RISC OS computer manufacturers.

Until now.

The Omega changes everything, so let's take a look behind the scenes to find out more about the company and its products.

The people

I met with David Atkins (Managing Director) and David Prosser (Technical Director) away from the office. It was politely explained least I see things I'm not supposed to, as development and production are in close proximity.

Perhaps I should explain that MicroDigital design all their own hardware, firmware and the software associated with their products as well as doing all their own assembly from component level, through to final product assembly and test.

So where did the Omega come from?

The back-end of Omega

"It has been coming from way back in 1997. When we approached Acorn to discuss the possibility of building and marketing a RISC OS computer. Predictably Acorn's reaction was an emphatic NO, to that idea. However they suggested that we could build and market a machine based on the A7000+ motherboard and from there the Medi was born."

The Medi had several major differences from the A7000+: firstly it had a CD-ROM drive and an expansion podule which supported two EASI podules, whereas with the A7000+ it was a question of either a CD ROM or one expansion slot, not both. Further Medi had IDEFS which was able to transfer approximately 4MB per second, plus disc partitioning and password protection.

"Unfortunately while waiting for the first production quantity of motherboards Acorn announced it had pulled out of the computer market.

"What happened next was 'nothing', no replies to telephone calls or letters until sometime later, January or February 1998 when they telephoned out of the blue to tell us to talk to the company who now make the Acorn computers under licence.

"Contact was made, but unfortunately by that time, the price of the motherboard had all but doubled, effectively killing the project. While this was a great disappointment at that time, it turned out to be a greater stroke of luck. For within days RISCOS Limited was announced and after discussions MicroDigital applied for an Authorised Manufacturing Licence and a new machine, code-named Spectrum, was born.

"Specifying Spectrum was relatively easy, clearly any new machine should be StrongARM-powered and where possible include the latest PC technologies of the day. It quickly became clear that the Acorn IOMD and MEMC chips, hardware independence, and a 32-bit operating system plus the lack of details regarding the rumour StrongARM 2 processor were the problems that would have to be overcome."

The original Acorn IOMD and MEMC designs have two major problems from MicroDigital's point of view:

• They are both Acorn proprietary designs;

• The designs are very slow by modern standards;

On the processor front although MicroDigital are Intel registered/approved developers, little or no information was available at that time for the StrongARM2. So armed with these facts, and lack of technical information, MicroDigital took the decision to build an entry level computer using 7500FE processor and EDO memory.

Firstly to gain experience in designing and building an ARM-powered RISC OS desktop computer (there's no book on how to do it) and secondly because the 7500FE has the advantage that it incorporates the memory and graphics controller which would give them the time to develop their own for the Spectrum.

Apart from the processor and memory they had a blank sheet of paper to specify the new machine. History indicated that the Beeb and the A3000 were among the best entry level computers produced to date, they were fast though not the fastest, nut more importantly they were amazingly user expandable within their own markets.

Having taken note that expansion was a key feature MicroDigital pencilled in ISA and USB from the PC world. What about PCI? Yes it was considered as it would have been a very sexy option, which was just about technically possible but would have cost a lot of time and money to crack. Plus the expansion cards had the potential to overwhelm the ARM7500 processor as it also had to handle the graphics, so the idea was dropped. MicroDigital then added their own MicroBus expansion slots.

Why a proprietary bus? Simply because the Acorn podule bus was slow and out of date and fundamentally the form factor did not fit easily into PC cases, so to include it made no sense, and as there was no other body in existence to lay down standards they had no option but to go their own way. What's more nobody else knew of the existence of the Spectrum project or MicroDigital's development plans which were the reasons for the high speed bus.

Looking at the Mico motherboard it is clear to see that where possible, MicroDigital have used standard ICs from the combo chip, EDO memory, USB controller, ISA sound card and modem. However there are two chips on the motherboard that are designed by MicroDigital, one does the direct memory accessing (DMA) the other is the EIDE controller which at 8.5MB/second transfer rate is almost twice the speed of the RiscStation computer and four times faster than a standard StrongARM Risc PC according to an APDL speed test.

With the first computers built, tested and performing above expectation soon after the Wakefield 99 Show MicroDigital had to wait until March 2000 for their RISC OS licence to be able to ship the new Mico computer. With the first computer shipping MicroDigital turned their attention to the Meco portable, a memory controller chip and a graphics controller, later to become the Lightning chip for the Mico.

A development prototype of the Meco was shown at the Wakefield Show 2000, however as a result of market research carried out at the show together with several adverse changes which were affecting the market coupled with good news from Intel regarding product availability, the company took the view that the Spectrum project should now be given top priority.

Meco was put on the back-burner and all resources went into completing the PCI I/O sub-system,

memory and graphics controllers. MicroDigital first announced the Lightning chip in June this year, as an upgrade graphics board for the RISC OS 4 Mico computer, which at several levels is the Spectrum's test bed.

Spectrum to Omega

Because of the uncertainty and negative publicity, which inevitability follows radical market changes, in this case Acorn withdrawing from the computer market, it's only natural that any other changes or rumoured changes no matter how big or small, lead to even greater market instability.

It was these uncertainties that lead MicroDigital to design a dual-processor machine capable of running at least the RISC OS 4 operating system while being able to support up-to-the-minute PC architecture, 32-bit processors and future 32-bit operating systems.

The Omega motherboard has a StrongARM SA-110 processor for backwards compatibility with the current operating system and the optional second processor can be either the new Intel 80200 Xscale 600MHz or 1GHz processors. This means that Omega works with the existing 26-bit SA-110 processor and the RISC OS 4.03 operating system or with the SA-110/80200 processors in an intermediate mode with the SA-110 running RISC OS 4.03 operating system and the 80200 running suitably modified 32-bit applications or with the 80200 running a 32-bit operating system and applications.

The Omega flexibility is derived from the memory, graphics and I/O sub-systems which handle the data processing and switching of processors before handing data over in whatever form is required, prior to passing the data to the operating system in a form it expects. Hey presto!

The Lightning Plus graphics controller is an enhanced version of the Mico chip and, like the standard Lightning, works with the existing RISC OS 4.03 operating system. The Lightning Plus is capable of 1600 x 1200 @72Hz resolution with 24-bit colour, possibly higher in production machines, it provides 2D acceleration for a faster, smoother RISC OS desktop and 3D acceleration for the gamers. MicroDigital are having talks with software developers to ensure an industry standard API is established and used.

The I/O sub-system forms a bridge between the PC133 data bus and the PCI bus which needs direct access to the CPU and memory. The Omega motherboard has four 32-bit x 33MHz PCI slots two of which are free the others are used by the sound card and the 56k modem. Power users will be pleased to note that drivers have been started for PCI 100Mb/sec Ethernet and high-speed SCSI cards.

I asked why only 33MHz and was told that since the majority of PCI cards are 33MHz at present there's little point spending extra money getting the chips and extra effort to ensure there are no timing problems.

Omega comes fitted with 64Mb of PC133 main memory and although RISC OS 4 only supports 256Mb main memory at this stage the Omega motherboard ca take up to 1Gb (that's RAM not hard disc). Other features include two ATA 66 UltraEIDE interfaces with hard disc transfer rates approximately 30MB/sec, four USB (12Mbit) ports, two RS232 serial interfaces, parallel port, PS2 keyboard and mouse ports.

The machines come with 20GB EIDE harddisc drive, 52X CD-ROM, and a floppy disc drive. The Omega computer is fitted with an internal 56k PCI modem as standard so you can just plug in to the nearest telephone line and you're ready to surf the net.

Omega has a smart silver and grey tower case, which is amazingly compact considering the power of the machine. That said, it's very well made and will complement any office or home. It's worth noting that MicroDigital offer a larger case as an optional extra. It comes with a 300W power supply and has plenty of room for all those add-ins so loved by the power users out there.

It comes with a complete software bundle which includes *Pipedream 4*, *EasyWriter* and *FireWorkz Pro*. The base system costs £999.00 excluding a monitor and VAT, which is extremely competitive for a top-end desktop with this potential.

Conclusion

It's clear the Omega did not appear by magic, it represents two man-years of hard work by a totally dedicated team, a large bag of money to pay the bills, and not to be underestimated a huge amount of self restraint to keep it a secret.

So the secret's out. Was the new Omega computer worth the wait? I would say so. The Omega has everything that Pheobe promised and more. It forms a bridge between the RISC OS and the PC worlds. Bringing with it the economy of scale of the larger market, such as cheaper memory, printers, monitors and expansion cards.

Omega is the first real RISC OS power machine which in its basic, StrongARM SA-110, form represents a huge advance in technology and performance for the RISC OS world. By the time the Intel 80200 Xscale (StrongArm2) processors arrive it will be capable of challenging for a share of other, much larger, markets. END



Electrons with attitude

Surges and sags — Lionel Smith wonders if you could use protection and uplift?

It has doubtlessly occurred to you that electrical storms present a hazard to computer and telecommunications equipment. Particularly, if like me, you are often in a position where the sudden need to shutdown and unplug is at least inconvenient and at worst potentially dangerous to the devices and data on the system. Lightning strikes in the neighbourhood are likely to be absorbed by the local sub-station but not without the risk of a transient surge or a sag (brown-out) and more noticeably total power loss.

Lightning strikes on the telephone network can effect a wider area. It is not unknown for modems, serial ports and computer motherboards to be rendered beyond economic repair by a strike some distance away.

And there's more: The sudden switching in of electrical equipment such as the motors of refrigerators, deep freeze units and DIY power tools can cause 'spikes' in the power lines that may be shared by a computer system. It may be, due to the 'phasing' of power to domestic properties, that the spikes are induced by a DIY fanatical neighbour or even local light industry. Spikes and surges may not cause immediate and catastrophic damage to computer equipment but can, over time, lead to components becoming stressed and maybe failing prematurely.

Sags or brown-outs may also be more frequent than expected in areas which have seen much new housing, or other, development whereby new extensions are continually being added to the power 'grid' system. Then there is always that bogie of underground cabling — subsidence. Not to mention the hazards from electricity substations becoming immersed in flood water (recent occurrences in my neighbourhood).

I have experienced the disappointment and waste when power events have occurred during CD writing, resulting in discs only usable as coasters. There have been two power events in quick succession while writing this. Fortunately my uninterruptable power supply (UPS) kicked in to keep things going. On one memorable weekend recently the power went down just long enough for all hard drives to begin shutting down and then start-up again before they had chance to come to rest. Not nice, as my ordered UPS was yet to arrive.

The biggest, and often unrealised, hazard of an event such as this is that as the power comes back on there is often a dramatic increase in voltage. This can get the better of the computer power supply unit (PSU) and cause its failure. But not before some of that over-voltage has been fed through to the motherboard causing damage. Damage that may not be immediately apparent.

It should be apparent from the above preamble that there are two basic strands to the dilemma. The first being surge and spike protection, for both power and telecommunication lines, the second is maintenance of power voltage levels during sag, or brown-out, conditions or, at worst, total power loss.

The first of the above is generally the cheapest to protect against, the second requires a little more investment of cash, and thought. However, recent devices designed to answer the power loss condition frequently have surge protection for both power and telecommunication lines built in. So I'll discuss these devices first.

The UPS

While spikes and surges can be removed by filtering, sags or power loss require some form of supplementary power, usually from a battery. This is where an UPS comes in. At its most basic a UPS consists of a battery, a means of detecting under- and over- voltage levels and switching to substitute battery power for mains when need be. The UPS



UPSes are a lot more stylish than they used to be

will also have means for charging the battery and filtering to eliminate surges and spikes. How all these features are integrated depends upon the architecture of the UPS.

There are three common UPS architectures: Standby (or offline) UPS; Online UPS; and Line Interactive UPS.

Standby UPS

The Standby or offline UPS is, in general, the simplest and cheapest UPS architecture, one which would formerly have been the choice for entry-level, home and home-office.

Mains supply into this UPS-type is split over two paths. One, the main path, passes through a filter, which provides some correction for surges, spikes and sags, and then via a branching path to a change-over switch and power failure detection unit. The latter could be a simple solenoid mechanically attached to the change-over switch. Under normal conditions the change-over switch passes power directly through to the computer output.

The other mains supply path feeds an AC-DC converter which acts as a charger for the battery next in line. The battery output is connected to a DC-AC converter (inverter) this then being connected to the change-over switch.

When power drops below a level at which the filter can compensate, the power fail detect operates the change-over switch to allow the battery to feed the computer via the inverter.

One big drawback with this architecture is that the power fail detect unit and change-over switch can be slow enough in operation to allow a significant break in the supply, before the battery output becomes effective. The break in power could be long enough to cause the computer to crash or re-boot. Also the spike and surge suppression filters of this architecture are usually not as effective as those found in other UPS types.

The standby UPS, with its simple architecture, is relatively cheap to build. It also has the minor advantage that, as the mains supply is connected directly to the computer under normal conditions, it draws little extra power other than charging the battery.

Online UPS

The fundamental difference with the online UPS architecture is that the line that runs from mains power supply, through the filter to the change-over switch and then the computer is not the main — always on during normal operation — line. It is the path via the AC-DC Converter (battery charger), the battery and DC-AC Converter (inverter) that supplies the power through the change-over switch under normal conditions. Thus under normal conditions the battery is on constant charge from mains electricity and also constant discharge supplying power, through the change-over switch, to the computer.

When mains power fails the battery and inverter maintain the supply of power through the change-over switch. A branch from the line between the inverter and change-over switch is connected to the power fail detect. In the event of a failure in any of the components in the main path, that is in the battery charger, battery or inverter the loss of power is detected and the change-over switch operated to allow mains power through the conditioning filter to the computer

The primary advantage of the online UPS is that under normal conditions there is no direct connection to the mains. All power is drawn from a battery via an inverter. This feature also ensures that in the event of mains supply failure there is no switch-over delay.

One disadvantage of the online architecture is the cost of manufacture, due largely to the greater amount of circuitry required. Another disadvantage is due to the impossibility of achieving 100 percent efficiency from the components in the main path and hence a significantly greater consumption of power than the standby type. On grounds of all-round cost these units are typically used with networking equipment or for mid-sized to large servers.

Line Interactive UPS

With the line interactive UPS we have a fundamentally different architecture from either the standby or the online types described above. The mains supply is first passed in parallel to a switch and a power fail detect unit. Under normal conditions the power is then passed through a conditioning filter to the computer and also via a DC-AC converter to a battery.

When mains power fails the DC-AC converter becomes an inverter thus allowing battery power to flow

Table 1: Belkin Regulator Pro – Gold Series UPS

Specifications		F6C325	F6C425	F6C525	F6C626
General	Line Interactive	Yes	Yes	Yes	Yes
	Automatic Voltage Regulation	Yes	Yes	Yes	Yes
	VA Rating	325VA	425VA	525VA	625VA
	Transfer Time, typical (milliseconds)	10ms	10ms	10ms	10ms
	Dimensions (mm)	156x215x222	156x215x222	156x215x222	156x215x222
Software	Sentry Bulldog Shutdown Management	No	Yes	Yes	Yes
Communications	RS232 Port	No	Yes	Yes	Yes
	RS232 Serial Cable included	No	Yes	Yes	Yes
Telephone/Fax/ Modem/Network	Quantity of telephone sockets	None	3(RJ11/RJ45)	3(RJ11/RJ45)	3(RJ11/RJ45)
	Surge supression of sockets	N/A	Yes	Yes	Yes
	Built In Line Splitter	No	Yes	Yes	Yes
	RJ11 Telephone cable included	No	Yes	Yes	Yes
Number of Sockets	Battery and Surge Protected	4	4	4	4
	Surge only Protected	4	4	4	4
Protection	Joule Rating	320	320	320	320
	Maximim Spike Amperage	12000	12000	12000	12000
	EMI/RFI Filtration	Yes	Yes	Yes	Yes
Back-Up Time (Minutes)	Desktop 486 PC with 15" monitor	13 – 17	20 – 24	28 – 32	37 – 41
	Desktop 300MHz PC with 15" monitor	5 – 10	8 – 13	20 – 25	26 – 31
	Desktop 400MHz PC with 15" or 17" monitor	Not recommended	5 – 8	11 – 15	17 – 21
	Desktop 500MHz, and above PC, with 17"or larger monitor	Not recommended	Not recommended	5 – 8	11 – 15
Warranty	Data Recovery	Yes	Yes	Yes	Yes
	Product	2 years	2 years	2 years	2 years
	Connected Equipment (£)	30,000	40,000	50,000	60,000

Based on information from the Belkin Regulator Pro*f* UPS product catalogue

through to the computer. Also, the power fail detect reacts to the power failure by operating the isolation switch and thus preventing the battery powering other loads on the mains supply.

This architecture eliminates any switch-over glitch and provides a higher degree of mains conditioning. This at the cost of a little more complexity than the standby UPS.

The line interactive type has been favoured by those, perhaps running small servers, who required more protection than that offered by the standby UPS but did not want to bear the cost of an online type. However, advances in design and production methods have now made it possible for some manufacturers to offer line interactive UPS at entry level prices. This is where the recently introduced Belkin range come in.

Whatever the architecture, a UPS is judged by its battery power output capability which is quoted as so many VA, where VA indicates Volts multiplied by Amps. For example 325VA or 625VA. In practice the higher the number the larger the amount of power available and/or the longer the time that the power can be maintained.

Regulator Pro

Over the last year or so I have been watching the specifications and prices of the UPSes that have been marketed by leading vendors, such as APC (American Power Control), Chloride, Liebert and PK Electronics. None of these really fitted the bill for me. Each had attractive features but irritatingly spread across the different manufacturers, with the best being an expensive compromise.

Not long ago I received one of the weekly CPC (Combined Precision Products) flyers containing details of a whole new range of UPS from Belkin with features and at prices that seemed attractive.

Belkin are renowned for the quality of their accessory equipment such as SCSI cables and data switch units. Also in this flyer were details of the revamped Belkin range of surge-protected sockets (of which more later). Now it was possible to solve all my computer protection problems in one hit.

The Regulator Pro™ Series UPS consists of four models ranging over capabilities and price. Each model is identified by its VA rating and they are as follows, with the last known ex-VAT CPC catalogue sterling prices being quoted in brackets: 325VA (£65), 425VA (£80), 525VA (£92) and 625VA (£106). Table I provides essential details for each model in the range.

Although the basic design is of the line interactive UPS type, these Belkin units have the addition of a microprocessor-controlled voltage regulator fitted between the AC input and AC output providing automatic voltage regulation (AVR). If the mains voltage goes outside of the AVR range the microprocessor will switch into battery back-up, sometimes termed autonomous, mode. All models have eight surge-protected outlet sockets, four of which have battery back-up with the battery being hot swappable. The three higher specified models also have three surge-protected RJ11/RJ45 sockets with built-in line splitter for protecting telephone, fax, modem or network. Also found on these three models is an RS232 serial socket. RJ11 telephone and RS232 cables are supplied.

The main case is constructed of black ABS plastic which is dent and crack resistant, and fireproof. To the front of this case is attached a distinctive facia of silver-grey plastic.

As only one IEC to IEC cable is supplied with each UPS you may well need to order extra cables for some loads.

Under pressure

The four models of UPS all have similar control and indicator layouts. At the front centre top is a distinctive mauve coloured power ON/OFF and Test button. To the left of the power button are a green On Line indicator, outboard and a yellow On Battery indicator, inboard. To the right of the power button are a red Replace Battery/Battery Test indicator, outboard and a red Overload/Fault indicator, inboard.

Switching on is achieved by holding in the ON/OFF button for over three seconds. Once the UPS is on, if this button is depressed for less than a second the UPS begins a self-test and enters back-up mode, this being indicated by the red Replace Battery/Battery Test showing a steady light and the yellow On Battery indicator flashing.

The green On Line indicator (left, outboard) illuminates when the UPS is working under normal conditions and flashes when the UPS switches into Auto Voltage Regulation (AVR). I have seen much of the flashing aspect of this On Line indicator.

Table 2: Belkin Surge Protection Range

Part Number	Model Name	Maximum Amp Rating	Joules	Connected Equipment Warranty (£)	Quantity of Sockets	Phone Fax Modem	Phone Splitter	Coax/Aerial Protection	Cord Length (metres)	BlockSpace™
Home/Office Grade										
FT00394	SurgeCube™	27,000	720	6,000	1	No	No	No	N/A	No
FT00395	MasterCube™	27,000	824	6,000	1	Yes	No	No	N/A	No
FT00396	SurgeMaster™	18,000	480	3,000	4	No	No	No	2	No
FT00397	SurgeMaster™	18,000	584	3,000	4	Yes	No	No	2	No
FT00398	SurgeMaster™	18,000	584	3,000	4	Yes	No	No	4	No
FT00399	SurgeMaster™	27,000	720	10,000	5	Yes	No	No	2	No
FT00400	SurgeMaster™	27,000	824	10,000	5	Yes	No	No	2	No
FT00401	SurgeMaster™	27,000	824	10,000	5	Yes	No	No	4	No
Superior Protection										
FT00402	SurgeMasterII™	33,000	1184	20,000	6	Yes	Yes	No	2	Yes
FT00403	SurgeMasterII™	33,000	1184	20,000	6	Yes	Yes	No	4	Yes
FT00404	SurgeMasterII™	33,000	1184	20,000	6	Yes	Yes	Yes	2	Yes
FT00405	SurgeMaster™	33,000	1281	20,000	5	Yes	No	Yes	2	Yes
Maximum Protection										
FT00406	SurgeMasterII™	39,000	1544	30,000	8	Yes	Yes	No	2	Yes
FT00407	SurgeMasterII™	39,000	1544	30,000	8	Yes	Yes	No	4	Yes
FT00408	SurgeMasterII™	39,000	1544	30,000	8	Yes	Yes	Yes	2	Yes

Based on information from the CPC catalogue



If the UPS enters back-up mode the On Battery indicator (left, inboard) illuminates and an audible alarm sounds at 15 second intervals.

If the UPS should encounter an overload condition the red Overload/Fault indicator (right, inboard) lights and an audio alarm sounds at one second intervals. If a fault, that is an output short, should occur this indicator illuminates and a rapidly repeating beep sounds for 10 seconds.

Should the battery require replacing the red Replace Battery indicator (right, outboard) will light. The battery can be replaced without taking the UPS offline and by sliding down the battery compartment door at the rear. This aspect may require some thought when installing the UPS.

In the event of an overload condition the UPS may isolate itself from the mains supply by 'popping' a re-settable circuit breaker at the rear of the UPS.

The RS232 interface is intended for use with the shutdown management, control, monitoring and reporting software supplied on CD-Rom. This is of course only of value for PC users. One can only hope that such useful features can at some time be developed RISC OS. However shutdown management software is not essential for obtaining the primary benefits of installing such an UPS.

Choices

Choosing the most suitable UPS requires careful consideration of your requirements, not least of which is the loading of all the items of equipment you may intend putting on the battery load of the UPS. At the very least this will be the computer and monitor and one needs to calculate the VA required by these items. Fortunately the Volts and Amps required are often marked on the equipment, simply adding together each items requirements will provide an overall estimate.

Now a few words of warning. Items such as laser printers and some flatbed scanners can have ratings between about 400VA and over 700VA. Clearly these will overload the most capable of the units described here. Indeed, the user guide of the 625VA model warns against connecting a scanner as a potential battery load.

Although in practice the 625VA I have here seems to cope with a SA Risc PC (with CJE PC card and additional internal SCSI drive), a Ilyama 17inch monitor, an external Castle Combi unit fitted with a Yamaha CD-R/W, rack-mounted SCSI drive and also a film scanner. I think that the warning is aimed at those who may be considering the connection of a flat-bed scanner.

Another factor to consider is that the autonomy (back-up) time is not linear with respect to loading. At 50 percent loading the backup time is likely to be more than twice as long as at a 100 percent loading due to a drop in efficiency of inverters at full load.

Some models of UPS from other manufacturers can have their VA ratings extended by the fitting of additional batteries. However UPS of this type tend to be much more expensive and/or short on other features. Certainly these Belkin units will provide the back-up and surge protection features sought after by many at reasonable cost.

Spike and surge only

If the use of an UPS seems over-the-top for you it is possible to obtain effective spike and surge protection by the use of simple plug-in adaptors, many in the form of an extension lead.

Belkin appear to be leading the field in this area with a wide range of units from a single 13 Amp socket SurgeCube™ to an extension lead with two rows of four mains sockets (two of which are wider spaced to allow easier fitting of those awkward power-bricks), a telephone input socket splits to two outputs and AV input and output sockets, all surge suppressed. Table II provides details of the range.

There does not appear to be a range of equipment from any other manufacturer, for example ASC Bowthorpe, that comes close on both features and price.

Luxury or necessity?

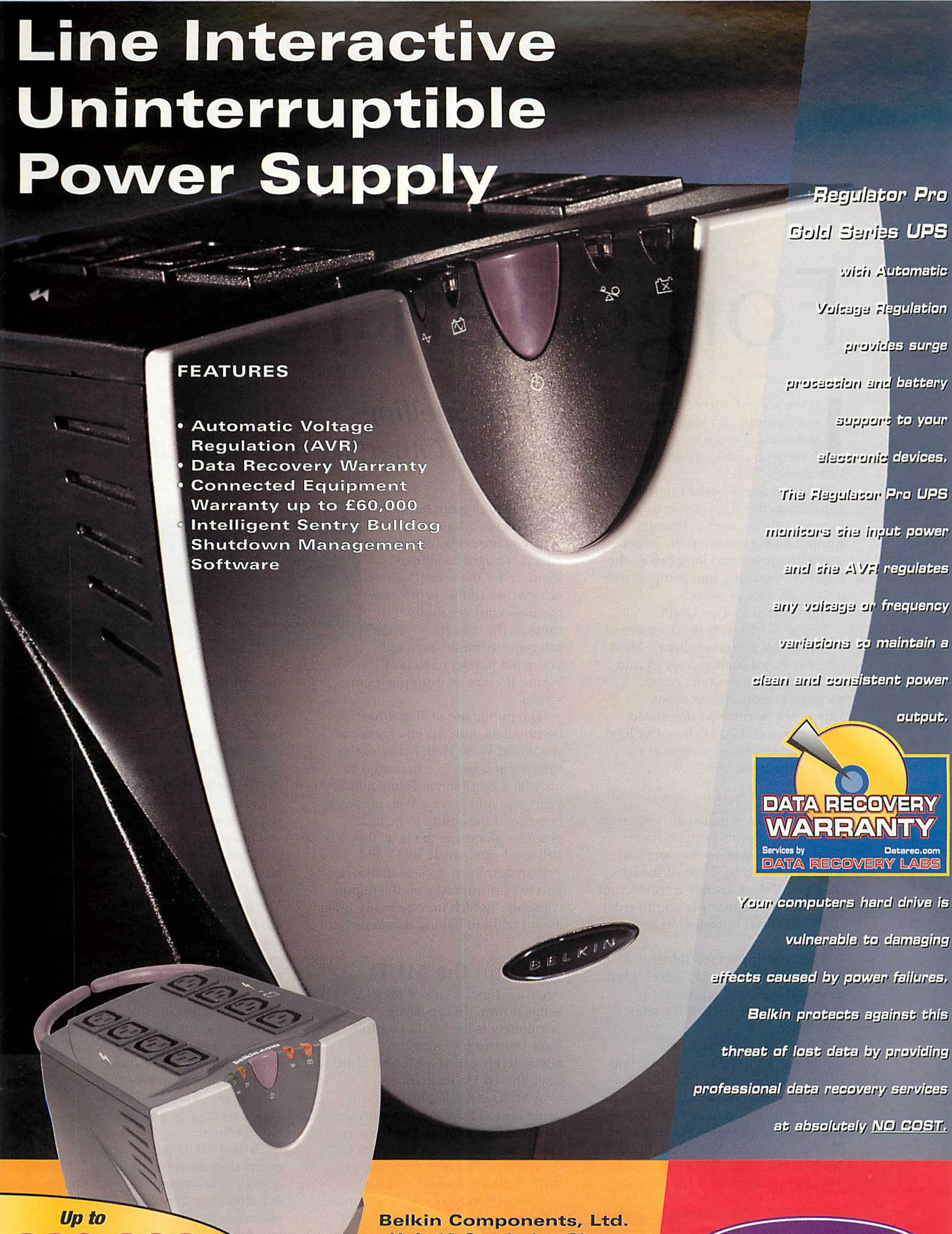
Clearly, sensible people may be looking for ways of eliminating, or at the very least reducing, the effects of electrical disturbance on their computer systems. At the most basic, the issue is how much importance you put on the continued reliable operation of your computer and on the integrity of the data which is stores and processes.

Reports of blown modems and even serial ports on computer motherboards are becoming increasingly frequent. At the very least surge protection for power and telephone lines is highly recommended. As for the need for an UPS, only you will know your needs — and the reliability of your local supply. All I can say is that mine has proved its worth in just a couple of months.

END

Product details

Maker:	Belkin Components, Ltd., Unit 13, Gatelodge Close, Round Spinney, Northampton. Northants. NN3 8RX
Tel:	(+44/0) 1604 678300
Fax:	(+44/0) 1604 678330
Supplier:	CPC PLC, Faraday Drive, Fulwood, Preston. Lancs. PR2 9PP
Tel:	(+44/0) 1772 654455
Fax:	(+44/0) 1772 654466



Line Interactive Uninterruptible Power Supply
FEATURES
• Automatic Voltage Regulation (AVR)
• Data Recovery Warranty
• Connected Equipment Warranty up to £60,000
• Intelligent Sentry Bulldog Shutdown Management Software
Regulator Pro Gold Series UPS with Automatic Voltage Regulation provides surge protection and battery support to your electronic devices. The Regulator Pro UPS monitors the input power and the AVR regulates any voltage or frequency variations to maintain a clean and consistent power output.
DATA RECOVERY WARRANTY
Services by Datarec.com
DATA RECOVERY LABS
Your computers hard drive is vulnerable to damaging effects caused by power failures. Belkin protects against this threat of lost data by providing professional data recovery services at absolutely NO COST.
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Up to £60,000 Connected Equipment Warranty
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Unit 13 Gatelodge Close
Round Spinney
Northampton • Northants
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Phone: +44 (0)1604 67 8300
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BELKIN
belkin.com

Forgotten realms

Neil Spellings continues his look at the OtherNet and its facilities

In the second part of this feature, we continue out look at some of the more obscure uses of the Internet outside of e-mail and the World Wide Web.

Telnet is a text-based Internet application that allows you to interactively connect to remote computers via the Internet. Telnet was actually around long before the Internet ever came into being as one if its main uses is as an adminstration tool on UNIX.

To use Telnet, you need a piece of software call a "Telnet client". Most Internet suites such as *Voyager* and *ANT Suite* from Argonet come packaged with a Telnet client, although you can also download shareware versions such as *FreeTerm* — see the resources section at the end for the links.

Using telnet

To connect to a remote site, you need to specify either its domain name or IP address, as well as the port you wish to connect to. Most of the RISC OS-based Telnet display a connection window which prompts you to enter all the required information as in Figure I.

The default port for Telnet is 23 (normally just labelled "Telnet") but most software will allow you to connect to other ports if the site requires it.

Once your computer has connected with the remote site, you will normally be asked to enter a login ID and a password. If this is a system which you have used before, you simply enter your existing user ID and password. Note that if you mistype your user ID or password, you may get disconnected after three attempts to prevent hackers and password "cracking".

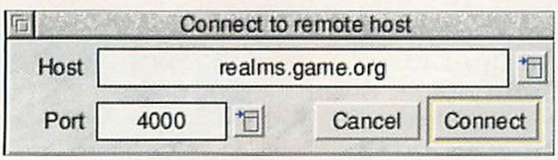


Figure I: Getting connected with Telnet

If you are not a user on the site, you might be able to login under the user ID guest or newuser (if this is the case, the password is usually the same as the user ID — or the Internet site might even tell you what password to use). Figure II gives an example login screen.



Figure II: Logging in without the frills of graphics

The public use of Telnet has become less with the emergence of the World Wide Web. Many of the systems and services that used to only be accessible via Telnet a few years ago now have a Web presence because of the ability to include graphics alongside the text. Telnet is still used extensively by IT and system administrators as it allows you to perform tasks on the remote computer (which may be many miles away) without having to leave your desk.

Stuck in the MUD

Another popular use of Telnet which keeps it from disappearing completely is the MUD, or Multi-User Domain (or Dungeon) — alternatively called a MUSH, Multi-User Shared Hallucination.

A MUD is a role playing-type game hosted by a computer on the Internet. Users connect to the server via Telnet and create characters for themselves. The user then moves their character around a virtual "Domain" via commands send through the Telnet window.

Anyone who remembers the text-based adventure games of the 80's will be familiar with the concept of MUDs. You control your character via simple command such as "go north" or "examine book" and interact with other characters in the domain. Multi-user versions were available from many of the pre-Internet systems such as Microlink and Prestel *Shades* was a popular one.

However MUDs hold several advantages over a simple text-based adventure:

Other characters
The other characters in the domain are real people, as opposed to computer-controlled characters. This means that they can be unpredictable, and sometimes abusive — though sending abuse at other characters outside of the normal in-game battles is frowned on in most MUDs and will usually get you kicked out and even banned.

Evolving environment
Characters in the MUD have the ability to modify and change the environment.

Skilled MUD users can even create their own rooms in the domain, and sometimes even entire sub-domains. This means that from one week to the next, it's unlikely you will encounter the same characters or locations in quite the same way.

These qualities can make MUDs extemely addictive, Figure III shows

Figure III: Years of development and limitless memory can give you some very friendly messages

an example screen from a popular MUD.

Getting to the files

File Transfer Protocol (FTP) is a communication system used to transfer files between two computers across the Internet. The primary use of FTP on the Internet is for anonymous FTP which is simply an Internet site accessed via FTP that has a large number of files available for public downloading. They are called anonymous because you log-in anonymously. Simply enter the word "anonymous" at the "Username:" or "Login:" prompt and your full e-mail address at the "Password:" prompt.

As with Telnet, the increasing influence of the World Wide Web has resulted in most FTP file archives being available over the Web, as well as or instead of FTP.

FTP Clients

As with most Internet functions, to access an FTP site you need some client software. The majority of RISC OS web browsers can perform anonymous FTP downloads automatically. Figure IV shows an example of an FTP site viewed in *Browse*. You traverse the FTP servers' directory structure much the same way as you would on your local hard disc. Selecting a folder will display the contents of that particular folder. To move to the parent folder, select the ".." folder at the top of the page.

Figure IV: FTP file lists presented as a Web page in Browse

When you find the file that wish to download, select it and the file will be downloaded to your machine. A RISC OS save box allows you to choose the location where you save the file. Note that this may appear at the start or end of the transfer, depending on which Web browser you use. Figure V shows a file being downloaded via FTP — once again from *Browse* which, more sensibly, asks where you want to put the file first.

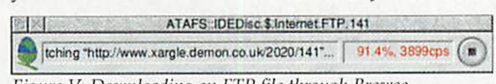


Figure V: Downloading an FTP file through Browse

Figure VI: Using FTPc on the same site as Fig IV

Although Web browsers offer a simple way to download files, they don't offer FTP-upload facilities to transfer files from your local PC onto the FTP server. A common example of FTP-upload is to get your Web site on to a web server. To perform this task, you will need a dedicated FTP client as opposed to a Web browser. Several exist for RISC OS — as with Telnet, FTP clients are built into the RISC OS Internet suites such as *Voyager* and *ANT Suite*. There are also several Shareware clients available — see the resources section for links to these.

FTP clients fall into two categories — command-line based, and GUI (Graphical User Interface) based. Traditional FTP has always been command-line based, but this requires the user to know all the required command to change directories, change the transfer type, upload and download files and so on. Because of the complexity of command-line clients, a GUI client can hide all the commands used "behind the scenes" and all the user has to do is drag and drop the files in true RISC OS style.

Figure VI shows the same FTP site as Figure IV but viewed in the RISC OS FTP client *FTPc*.

Right on time

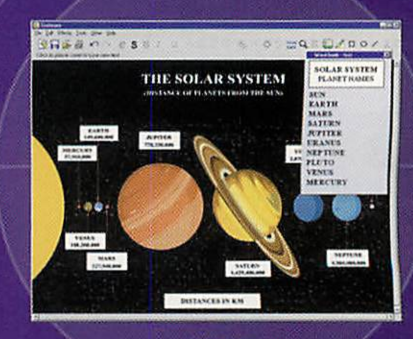
One little-known use of the Internet is to provide time-syncronisation services. These are servers connected to the Internet which provide the

Continued on page 49

textease® STUDIO

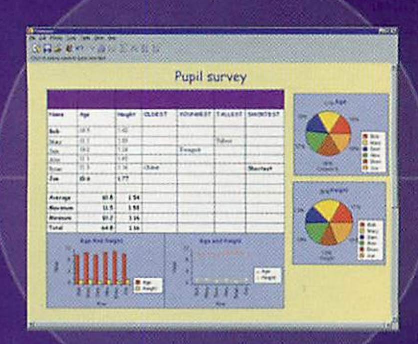
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Textease Studio contains software for the whole curriculum. Comprising of Textease 2000, Textease Spreadsheet, Textease Database and Textease Primary.



2000

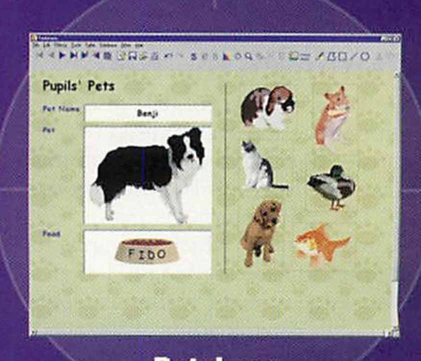
Textease 2000 is our award winning word processor and DTP package. Perfect for multimedia projects and creating your school web site. It features word and resource banks, as well as many new features like the ability to record sound.



Spreadsheet

Textease Spreadsheet is a powerful yet flexible numeracy tool equally at home creating simple graphs and tables as it is with the most demanding mathematical functions (Imports and exports industry standard CSV files).

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Viva Web Vegas

Robert Donaldson checks out Internet gambling and online casinos

Cyber Vegas is the name given to the sites which you can visit to play poker, blackjack, roulette, craps and even feed money into slot machines. This is the place where you can play for big money but where you rarely get something for nothing. The stakes are high and, when you take a trip to the bright lights of Cyber Vegas you must exercise care. The reason they call it gambling is because you can lose money as well as win it. Yes, this is where you play for real money.

The good news is that there are many sites which allow you to play for fun rather than risking your hard earned dosh. Most real money sites require you to download software to enable you to play the games. If you use the software while not logged on you can play without risking cash.

Other sites have 'just for fun' options which mean you can play for points or you are given a pool of money as credit. You can gamble away to your hearts content and it doesn't matter if you win or lose, once you've had enough, no money changes hands.

The idea is to show you just how 'easy' it is to win and then tempt you into taking the risk of buying into the real money games. There are even sites which allow you to play for points but which award spot prizes to players who accumulate the most points during a given period of time.

There are literally thousands of sites but here are the ones I tried:

Camelot Club

www.thecamelotclub.com

Just for fun you're given $2000 credit for each game ($4000 for slots) but you don't win any money should you make a profit and it doesn't cost you anything if you make a loss. You can play for real money but this involves downloading software and depositing a stake via credit card, bank draft or personal cheque.

Playing for fun gives you the chance to try out four games. Each game takes a few seconds to load in Shockwave. Games available are:

Blackjack

Good version where the odds do not seem to be heavily stacked against you. I found myself making a profit very slowly. After 30 games betting $15 a game I was up by $30.

Roulette

A faithful recreation of the roulette table and the game doesn't seem to display any obvious signs of favouring the house. I bet $15 a spin ($5 on any even number, $5 on any red number and $5 on 1 through to 12 turning up.) After 20 spins I was down by $80 .

Slots

Recreation of a typical American Slot Machine with a minimum win of $2 and a jackpot payout of $5000. Number of games 50, bet per game $15 overall result down $315

Video Poker

After 20 games betting the maximum $5 I actually made a profit of over $200 on this game and was seriously tempted to play it for real. Fortunately, I'm not the type to go off at the deep end though so I decided to try a few other games before making such a big step into the big and scary area of gambling real money.

Plus points: You can download the software to get access to a couple more games and it is possible to use the software offline so you don't lose any money so you can get plenty of free practice games in. The online games at the site are very good to look at and respond to key presses with little or no delay.

Minus points: The only way to win real money is to gamble with real money.

The DorCino Club

www.dorcino.com

To play here you have to take a little time to apply for an account but don‹t worry, DorCino is a "just for fun" site and no real money is risked. Once you sign on with Dorcino your account is kept active for ten days after which it expires and you have to re-register.

DorCino offer what's known as a Prime Account which apparently has more features than the standard account you've already signed up for. Prime Accounts cost money, $5.95 per month to be exact. I personally don't see why you should bother.

Once you get through the signing on process you are presented with a list of game. You have the choice of playing Java or HTML versions of most of the games. There are a large selection of games here including:

Slots

There are a wide selection of slot machines to play. I chose Pirates Cove (the first of a long list) and was given the choice of playing either the Java or HTML versions. I opted for the Java $5 machine, played 20 games at $15 a game and came out down $75

Roulette

I tried to use the same tactics as used when I played Camelot roulette but for some reason on the two nights I tried to play, the darn thing just refused to spin.

Video Poker

Having done so well with the Camelot Club version, playing the

same $5 stake for each of twenty games brought me back down to earth with a bump as I made a loss this time, ending up down $30.

Others

There are a few more games to choose from, including Blackjack /Rummy, Horse Racing, Red Dog, Craps, Sic Bo, Lotto and Bingo.

Plus points: No pressure is put on you to tempt you into playing for real money. This really is a just for fun site only. Real money sites do advertise here but, if you have a Prime Account, the advertising banners are removed from the pages.

Minus points: Roulette refused to work for me and several of the games were slow and unresponsive. I regularly got the message "Please wait, communicating with server" particularly during games of blackjack. You need to be a lawyer to figure out the rules to craps and I still haven't sussed out how to place a bet on that game.

Gambling.Com

www.gambling.com

This is a site which shows a lot of potential to those of us who would like to win money and prizes without the risk of losing money. By registering to this site you are awarded 50 Ludos. You can then use Ludos to enter games and tournaments in which you can win cash or prizes. You can earn extra Ludos — simply by visiting Gambling.Com's home page once every 22 hours you receive 50 more Ludos.

Certain games which you play give Ludos as prizes. Every month you have three votes in the poll to decide the top sites, and every time you use all three votes you receive a random number of Ludos, ranging from 40 to 100. Finally, by notifying Gambling.Com of errors on their pages or coming up with useful suggestions to improve the site you could receive a Ludo reward.

Disappointingly, only three cash prize competitions were running when I looked at the site. Two required downloading software, The Gaming Club Casino Tournament — with 10 prizes totalling $1500 and The Mapau Casino Tournament — 22 prizes totalling $1600. The third competition was called Phrase Finder which offered a weekly prize of $100 just for searching through site advertisements to answer a set of questions.

I took a look at the Gaming Club Casino Tournament. It costs six Ludos to enter and you need to download software. The bad news is that you do not win the cash in hand. Instead, the winner has an account opened with the Gaming Club Casino and is credited with the amount he has won. Still, if you can restrict yourself to just gambling these winnings you can have a go at playing with the big boys and only risk losing a shirt that 's been given to you instead of your own.

Plus points: The directory here gives links to several thousand on-line casinoes. Plenty of ways of earning Ludos which you need to play for cash prizes.

Minus points: Most of the prizes are cash deposits in "real money" casinos.

Other fun sites include:

Jamba and Uproar

www.jamba.co.uk
www.uproar.co.uk

These were two of the sites I mentioned last time when featuring trivia games and quizzes, but they also have "just for fun" casinoes at these sites. You have a choice of five games at Jamba's Casino while Uproar only has two games to play.

PokerCentral

www.pokercentral.com

This is one other site I feel deserves a mention, while containing several just for fun games, also contains a comprehensive guide to on-line



gambling, tactics, links to on-line casinoes, magazine articles on poker strategies, tips on how to play and when to quit, and there's even a list of when and where tournaments are taking place. So if you want to have advice from experts as to whether its time to give up your day job and concentrate at being a professional gambler, check out this site and see if you're ready.

Summing up

So there you have it. Over the two articles I've given you a brief taste of competition and prize sites which, if you have the time and the reasonably priced, or better still, free internet call charges, you can spend time accumulating wealth. I found that just maybe the ends will justify the means but, fun though all these sites are, you have to spend a long time playing games before you even start to show any kind of profit.

In the end, though, the National Lottery slogan, "You've got to be in it to win it!" is all too true. I can't, however, see me taking the plunge and trying out the real money casinoes. Don't get me wrong. It isn't that I'm afraid that I will go over the top and lose too much, it isn't that I worry that I'll become a gambling addict.

No, it is simply that the way my bank account balance looks nowadays, I *couldn't afford* to make the minimum deposit (typically $20). Yes I know one needs to speculate to accumulate but one also needs to eat — remember, boys and girls, the House never loses.

END

Penguin o

Loki are to Linux much like RCI are to RISC OS, beavering away producing conversions of classic games. Visiting their Web site **www.lokigames.com** I was surprised to find just how many games they have under their belt. I understand they're a bit difficult to buy in the UK; I hope they arrange some better European distribution channels soon. I chose to review their port of Raven's *Soldier of Fortune*.

The game is packaged in the usual large box containing a somewhat smaller CD and manual. These have all been reprinted with Loki's logo; the CD has been remastered with Linux programs in place of the Windows ones and the manual also has Linux-specific information about requirements and installation. These requirements are quite demanding, including over 700Mb of disc space. There are no options for a smaller install, probably because the main PAK data file is too large to fit on a CD in its uncompressed form.

The game's engine is based on Quake 2's, but only supports OpenGL mode, making a good 3D card essential unless you think you can play at a fraction of a frame per second. 3D acceleration support in Linux is currently rather patchy, but hopefully this should change once the 2.4 kernel and Xfree86 with their



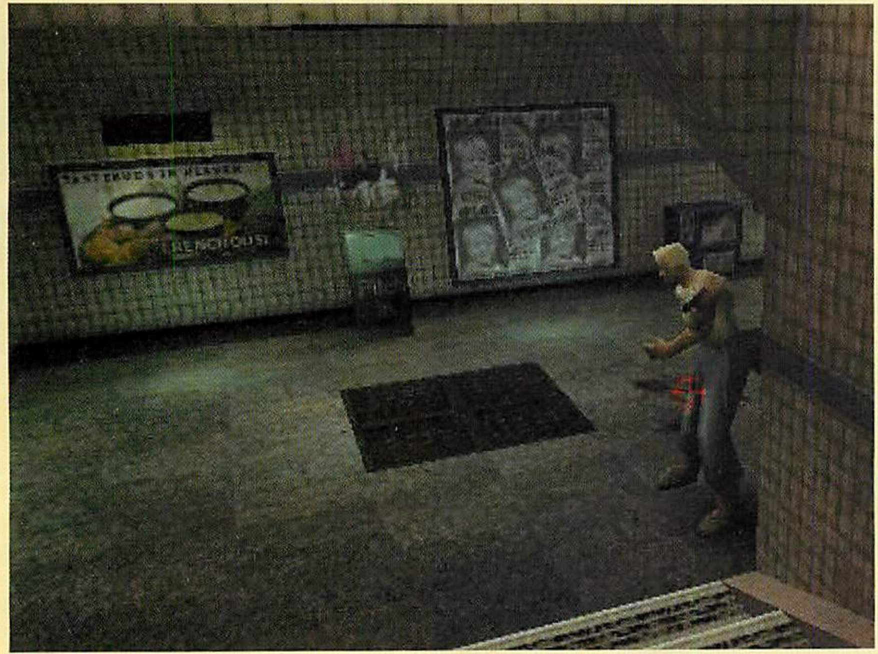
Direct Rendering Interface (DRI) become established. The current options are Utah-GLX **http://utah-glx.sourceforge.net** or Glide **http://linux.3dfx.com** to provide drivers for MesaGL **http://mesa3d.org**. Glide is for 3Dfx cards (Voodoo 2 or newer required for SoF), and GLX supports Matrox G200 or better and nVidia TNT or better cards, plus some others which would be too slow for this game.

I would have found it very helpful if the CD was provided with drivers and a guide to installing them, because this caused me quite a lot of trouble; to be fair though, this area of Linux is probably moving too fast to provide a comprehensive guide and set of drivers at the moment. With the versions of MesaGL and GLX I had been using with my Matrox G200, there were bugs in the texture rendering. The game's ReadMe file documents this and says the cure is to upgrade to a newer version of MesaGL, but this caused the X server to crash every time I tried to start a level.



Luckily I had anticipated that my G200 might be a bit old and slow to do the game justice and had installed Linux on my other PC, more usually encumbered with Windows, a P3-700 with a Voodoo 3 3000. Installing MesaGL for Glide also proved quite tricky, requiring careful location and reading of the correct ReadMe, a bit of detective work, and a bit of help from a newsgroup. The X display kept getting severely corrupted when

f Fortune



leaving *SoF*, but recovery is easy enough. That's the end of the bad news; I have experienced no other crashes or noticeable bugs while playing *SoF*. I should also mention that I e-mailed Loki with queries a couple of times, and they responded quickly with the necessary information.

In the game you play the part of a mercenary who gets most of his work from a UN anti-terrorist group. The central plot is based around destroying some nuclear weapons which have been stolen and distributed among a number of undesirables, but there are other missions to sidetrack you.

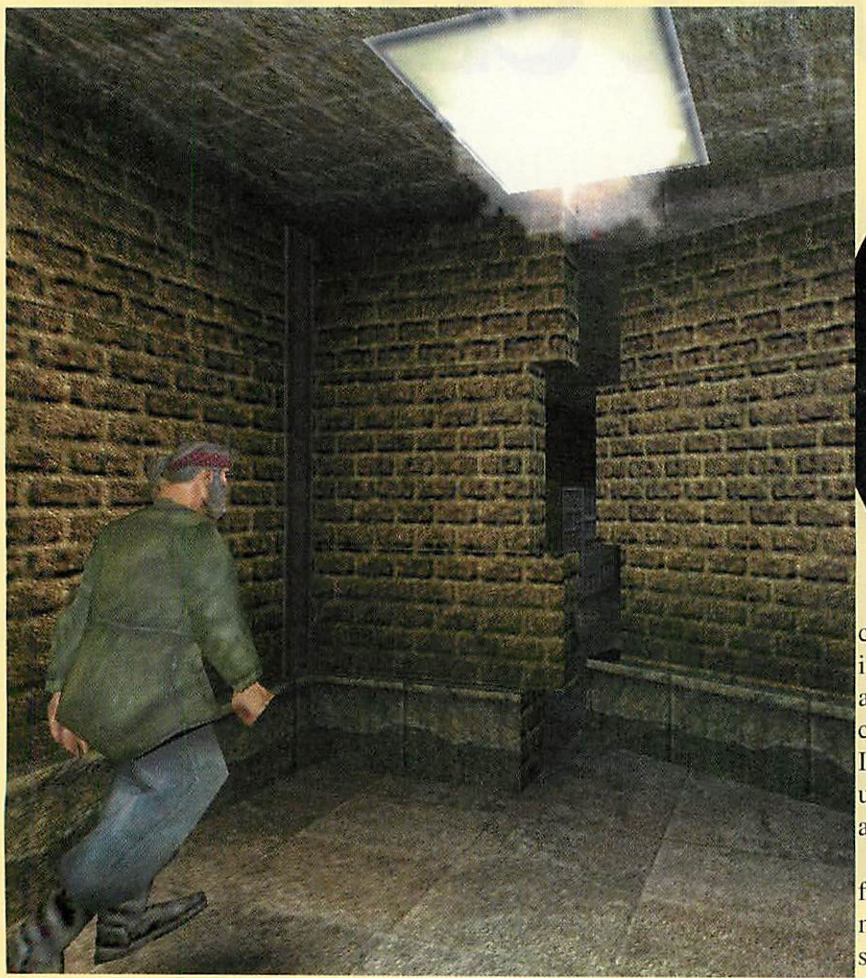
The code is based on the excellent Quake II engine, but with enhancements such as specular lighting, which makes metallic objects look reflective. These do take their toll on the frame rate even on my fairly powerful PC when things get busy, but they can be disabled or set at lower quality levels. Like most games based on Q2, I have real trouble getting onto ladders from the top and usually end up falling instead; I wish someone would tweak this one day to make it less awkward.

The screens for options are well-designed, the only gripe being that the mouse sensitivity here seems to be fixed for a 640x480 display, and perhaps a mouse which tracks faster than my Logitech PS/2. At 1024x768 plenty of elbow room is needed. The maximum sensitivity available for in-game was also a little slow for my liking, but it should be possible to enter higher values into the config file with a text editor.

What really sets this game apart is the attention to detail, making the other characters respond very realistically to being maimed but with a definite air of black humour. Enemies scream and writhe when shot, clutching themselves in the wounded area; shoot them in the leg and they hop up and down! Pools of blood spread out from downed men. You can lean around corners to pick off enemies without leaving yourself as vulnerable as if you stepped out. For concerned parents the gore can be locked out with a password. Another touch of realism is that you can only carry a certain number of weapons and equipment; from time to time you visit a secret armoury and choose what you're going to take with you into your next set of









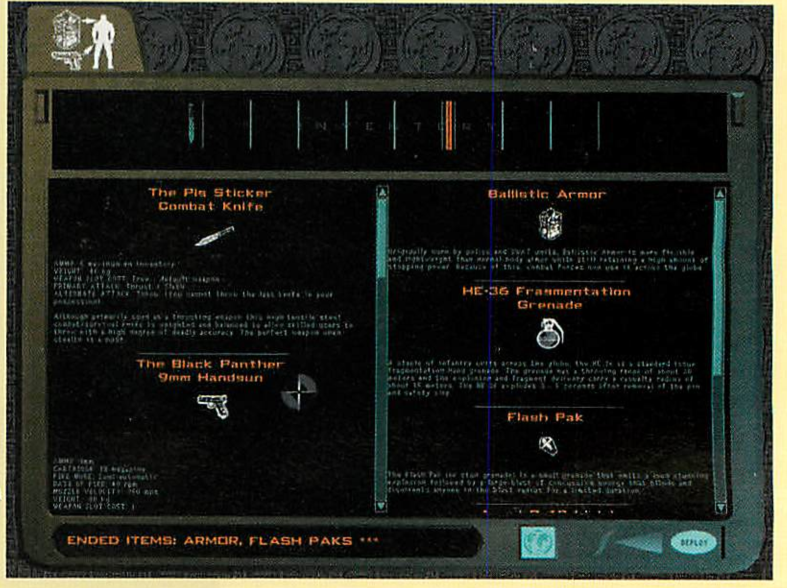
missions.

Time constraints prevented me from getting far into the game, but I thoroughly enjoyed the levels I did play. I found plenty of variety in the missions, starting off with a hostage situation in a New York subway before the main plot developed and I was whisked off to destroy the first bomb on a moving train, in a level reminiscent of one from *Tomb Raider 4*. An enemy helicopter adds to the challenge of this one; you can either try to dodge its bullets or brave it out and go for the pilot with your sniper rifle. Next came my first visit to "The Shop" to choose arms, before being dispatched to Kosovo where, before seeking out the second bomb, I was asked to take out a heavy artillery piece in a level composed of sewers and outdoor areas.

The levels were fairly small and contained few branches, which I liked, because it meant I didn't keep getting lost and wandering around corridors trying to remember whether I'd been there before. I think this is a matter of taste, and some people might prefer a tougher challenge in the exploring aspect. No doubt things get more complicated in later levels though, and I've already been made to think and use a bit of virtual athleticism to reach a half-hidden vital passage.

In summary, this game has enough features to make sure it's considerably more than just another first person shooter. The port to Linux has been done well, but it's let down somewhat by Linux's current 3D accelerator drivers; hopefully DRI will change this situation within a matter of months.

Would I buy this? Yes.



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DEC 00

Make it easy on yourself

James Harper explores some programs that make things easier for him

We all know how efficient and easy RISC OS is to use in comparison with some other operating systems we could mention, but that's not to say it couldn't be improved further. Utilities which plug perceived gaps in the operating system's functionality have always been extremely popular, be it programs to modify desktop operations, complete replacements for ROM applications such as *StrongED* and *BubbleHelp*, or simply different iconsets to improve the 'look and feel' of the desktop. These seem to be as popular as ever, despite the extra features (and new icons) provided by the latest versions of RISC OS.

The choice of which, if any, of these myriad 'desktop enhancers' you use is always going to be a matter of personal preference, much like the choice of text editor (cue endless *StrongED/Zap* debate...). This feature however, takes a look at a few which are perhaps not so well known, yet without which I would be completely lost.

RPCInfo

One of the most popular types of desktop utility (judging from the sheer number of times I've seen it done) is the iconbar clock. Of course, *Alarm* has been included in RISC OS for as long as I can remember, but it takes up a lot of space if you want the date displayed as well, and to be honest it's just plain ugly.

On first inspection, *RPCInfo* looks no more interesting than all the other desktop timepieces, but it's a bit more flexible than most. It allows you to display a variety of useful information on the iconbar, with Select/Adjust cycling forwards/backwards through the options. These include the time, date, amount of free memory, free space on a given disc (or PC partition), the number of colours and the x-y resolution of the current screen mode and a timer which will run until menu is pressed.

All of these options are configured by way of a text file inside the application, which can always sound a bit scary for a new or inexperienced user, but it's really very simple and full instructions are provided in the help file. The size of the icon adjusts to accommodate the longest entry in the configuration file, so if you keep things brief it ends up being very unobtrusive and it's use of the current desktop font means it's a lot less ugly than Alarm too. Simple but effective.

Filters

Filters by Andrew Kemp is not really one program as such, but a selection of several desktop 'patches' which, taken together add some very useful functionality. Installing the patches is a simple matter of double clicking on the *Filters* icon in a directory display.

To install them permanently you should add the application to your desktop boot sequence — on a Risc PC for example, simply copy it into the **!Boot.Choices.Boot.Tasks** directory.

Once installed, you can configure the application very easily by holding down the Alt key and clicking with Select on the task manager icon. This pops up a neat window which allows you to change which patches are installed and set options for some of them.

The first patch provided by *Filters* allows you to set the currently selected directory (CSD) by adjust-dragging the task manager icon and dropping it in the relevant directory display. This mirrors the functionality provided by the 'Set work directory' Filer option in RISC OS 4.

The second filter, 'Confirm', also makes a useful RISC OS 4 feature available to users of earlier versions of the OS. It's function is to make the Filer ask for confirmation of delete operations only. So you can now turn off 'Confirm' in the Filer options menu and not have to worry about hitting delete by accident.

If you do manage to accidentally delete an important file though, one of Filters' other patches will come to the rescue. 'Basket', as the name implies, places a waste paper basket icon on the left hand side of the iconbar. With this patch applied, deleting a file or dragging it to the icon will delete it from its original position and move it to a bin directory inside the *Filters* application.

A click on the iconbar icon will recover your files, and a menu option allows you to clear out the directory. There is also a handy option to allow expiry of the bin directory after a configurable number of days.

Another useful feature only otherwise available in the latest version of the operating system is 'Iconise' which allows you to iconise windows without continually reaching for the shift key. This can be achieved in one of several ways. First, by way of an extra tool next to the close icon; Second, an adjust click on the window's back icon; Thirdly by clicking and holding select on the close icon; Or, finally, holding down menu while select clicking on the close icon (my personal favourite).

In fact, *Filters* provides no less

than eight distinct Desktop patches but the only other major one (and probably the best reason for acquiring the program), is the brilliant *PinFilter*. This has been available on its own for some time, but the version here replaces the earlier, stand-alone program.

This filter allows you to save files to a temporary directory inside the *Filters* application simply by dragging a file from a save box onto the pinboard. Perfect for when you've just downloaded a file from the Web and realise you don't have a Filer window open. The file is then pinned to the backdrop for easy retrieval. The temporary directory can be opened by clicking on the pinboard menu's 'Info' option, and files can also be expired in a similar way to the waste basket filter.

In short, *Filters* is an absolutely indispensable application and one which all users without RISC OS 4 should install without delay!

IClear

Much as I hate to admit it, Windows, that most hated of operating systems, does actually contain a few good features. One such is the way in which writable icons can be turned blue with a click of the mouse and then the text in them removed simply by typing in something else — much less bother than reaching for Control+U.

Martyn Fox's *IClear* module provides this functionality under RISC OS and is another of those programs that, in my opinion, really should be integrated into the operating system itself. Once installed in your boot sequence it operates completely transparently. Simply double-click in a writable icon and the text will be inverted, then it's just a case of typing in the replacement text and Bob's your mother's brother.

StrongMen

The final program I want to mention here is *StrongMen*, written by Guttorm Vik (he of StrongED fame). *StrongMen* is an application launcher and URL hotlist manager. It also offers the user a history of recent files and a list of currently open files, all by way of a menu defined by a text file.

By default *StrongMen* puts an icon on the iconbar, though this behaviour is configurable. The menu is opened either by clicking Select on the iconbar icon or moving the mouse to the left hand edge of the screen and clicking any mouse button. Clicking on an item in the menu will run it (if it's a file or application) or, if it's a URL, launch a browser and attempt to fetch the page.

Only the leafname of files or a description of URL's are shown in the menu, but you can see the full filenames and actual URL's if you have *Help* loaded. Holding down Shift when selecting an entry will emulate a shift double-click on the file, and for URL's it will 'type' the URL so that you can insert it into a text editor or a dialogue box.

Selecting *StrongMen* from the iconbar menu or adjust clicking on the icon will load the menu into a text editor ready for editing. Each line in the file represents an entry in the menu and a group of lines that are indented becomes a submenu of the preceding line.

You can also get *StrongMen* to execute commands with a keypress, by following the command with a Tab and then specifying a key, prefixed with either up-arrow for Shift or ^ (power of) for Control. For example, adding the line:

```
Resources:$.Apps.!Draw   ^D
```

would add an entry called *Draw* to the menu. Clicking this, or hitting Control+D on the keyboard would then load Draw. Simple.

Two very important features of *StrongMen* are it's URL hotlist capabilities and it's file history. These are handled by way of special markers in the text. When the 'add to hotlist' button is pressed in either Browse or Fresco, StrongMen will recognise the fact and go through the menu file looking for the marker '#newurl'.

When this is found, the URL is inserted right after it, and can then be launched from the menu just like a file or application. The other important markers are '#history' which builds up a list of all files/applications you've run recently, enabling you quickly find a file or restart a program, and '#openfiles' which creates a list of all currently open files, and allows you to close files that have been left open by a crashed program.

There are hundreds of 'application launcher' style programs out there, but with it's file history, URL handling and ability to launch programs with a single keypress, *StrongMen* is by far and away my favourite.

Conclusion

While these programs may not initially seem like particularly 'serious' applications, they, and others like them, can speed up the day to day running of the computer and help you get your work done faster. With so many out there on the web, you're bound to find one which suits you. I'd recommend riscos.org (**www.riscos.org/links.html**); The Icon Bar (**http://iconbar.com/**), and especially HENSA (**http://www.mirror.ac.uk/collections/hensa-micros/local/riscos/**), as excellent places to start.

END

Program	Author	Status	Web
RPCInfo	Mrs A R Miskin	Freeware	**www.argonet.co.uk/users/miskin/**
Filters	Andrew Kemp	Freeware	**www.mirror.ac.uk/collections/hensa-micros/local/riscos/utilities/filters.arc**
IClear	Martyn Fox	Freeware	**www.argonet.co.uk/users/mfox/**
StrongMen	Guttorm Vik	Freeware	**http://freenet.barnet.ac.uk/manuals/g.vik/strong.html**

Build a b

Sendu Balu looks at what we might do to improve what is already very good

Perhaps one of the nicest things about RISC OS is it's Graphical User Interface, or GUI. It's certainly what keeps this writer coming back to RISC OS time and again.

But what is it, exactly, that's so nice about it? Why does it seem so much better than the alternatives? Could it be improved?

This series of articles here at *Acorn User* will take a leisurely stroll through the world of interface design. I'll answer those questions along the way, and by the series conclusion we'll even have a draft plan of what UltraGUI might be.

UltraGUI will be our companion over the coming months and if you're anything like me, you'll even come to love and respect him.

He represents the ideal GUI given current technological limitations. So while he won't be perfect, it will at least be possible to create him. A kind of Frankenstein for the RISC OS generation, I'll be building him from the best bits of Windows, MacOS, BeOS and RISC OS.

You'll be able to keep score with me to see which operating system provides the meat of UltraGUI and which operating system barely manages the veg. But before I get ahead of myself, I'd better start off with some introductory basics. We don't even know what a user interface (UI) is yet.

The best UI is no UI

In about a hundred years from now we might be able to interface with computers via direct brain communication.

We would simply desire some information and whoomph, there it is in front of us. When we're done with it (we loose interest or want to go onto something else) it would automatically vanish.

This would be the perfect interface — one that doesn't exist. That is, there is no interaction required between the human and the technology. The human just gets what it wants.

Jump back a few years, however, and we can imagine a less optimal design. Perhaps you have to think out specific commands: "Find information on xyz" instead of "xyz!", followed by "I've finished reading xyz" instead of "I wonder if my toast is done". You see, normally you don't have to tell yourself that you've finished with something.

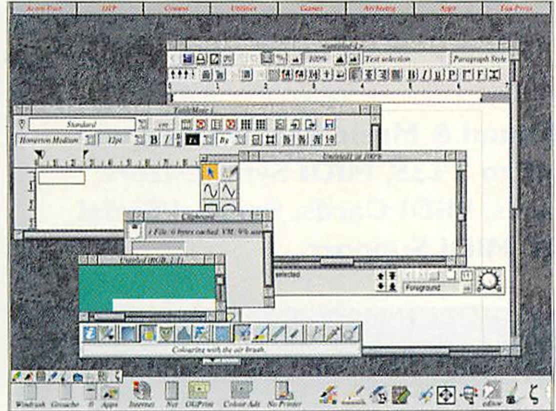
But when interacting with technology that has a sub-optimal UI, you have to do things that aren't directly related to what you wanted to do. I call this "overhead".

So if you wanted to be in your living room, but are actually in your bedroom, you can't just suddenly 'be' in your living room. You have to do other things first like engage your motor functions and walk there. That's overhead. Jumping all the way back to existing computer user interfaces, the overhead is pretty phenomenal.

Let's take an look at the 'finished with xyz' scenario as an example; xyz consists of the words forming a web page — when we've finished reading the words, we don't want to see them anymore.

Action:	*last word read*
Desire:	*clean slate*
Thought:	*close web page window*
Memory:	*clicking the close icon will close window*
Analysis:	*there may be many close icons. only click the one attached to the xyz window. must find it*
Check:	*where is close icon?*
Thought:	*click the close icon*
Memory:	*to click an icon first move the pointer there by moving the mouse*
Check:	*is hand on mouse?*
Action:	*move hand to mouse if not there*
Check:	*where is pointer?*
Action:	*move mouse so pointer moves to close icon*
Check:	*is pointer over close icon? is pointer suitably still?*
Memory:	*to click an icon press a mouse button*

etter GUI



Action: *click left hand mouse button*
Check: *has window vanished? any errors generated?*

At this point I can state explicitly what a user interface is. Since we don't understand computers at the level they operate at (1s and 0s), since the computer doesn't understand us (neurons firing), we need a system of communication that we both can cope with

In the above scenario we're quite happy with picture recognition and moving a mouse, while the computer can reliably translate a click over its close icon into the closing of a window.

A UI is simply the communication interface bringing us together. If computers did understand us we'd have the perfect UI of the future, and the scenario would be reduced to:

Action: *last word read*
Desire: *clean slate*

So the future will be a great place to live, but what about here in the year 2000? Well you'll be glad to know that it's possible right now to attain truly zero overhead with a bit of intelligent interface design.

Take my parent's VCR. Seriously, take it. It's just terrible! Every time I visit them and there's been a powercut it's the only machine they haven't managed to set the correct time on. It has two completely different ways of setting the time that give two different results, both of which require the pressing of tiny little hidden buttons and navigating on and off-screen menus. If they were to buy a new one, they'd be rather surprised.

Take it out of the box, plug it in and whoomph, not only are all the channels tuned in, but the machine automatically checks teletext and sets the correct date and time. No intervention required by the user?

Well tickle me pink if that isn't truly zero overhead, perfect user interface design. A subtle example of intelligence in UI design can be found in *Zap*, an advanced alternative to *Edit*. If you load a text file into *Zap*, change something, but then change it right back again and close the window, it just closes.

Do the same in *Edit* and it will ask you if you want to save the file, even though you haven't really changed anything. With a little thought, the writers of *Zap* got rid of an unnecessary dialog requiring the user to click 'Save' or 'Cancel', which in this case would effectively do the same thing.

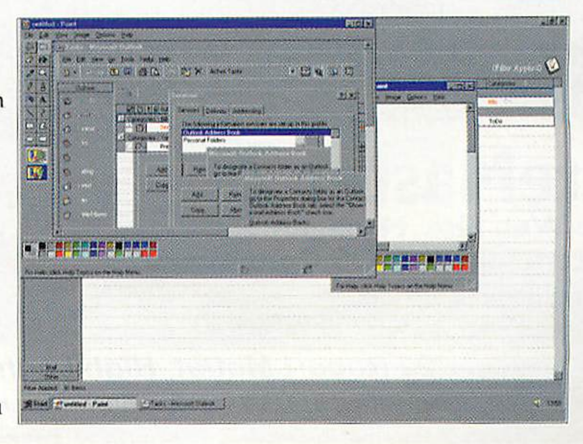
How about applying the VCR's automation of anything that doesn't absolutely require user input to computers? If you want to visit a Web site but are offline, you must first deal with an error message, manually connect and then visit the Web site.

And setting the time? Right now you have to learn to use *Alarm*, or perhaps fire up a utility that grabs the current time from the internet. It's all unnecessary overhead, overhead that can be eradicated by auto-connection to the Internet and automatic setting of the time.

Making the most of it

Most things, sadly, cannot be automated in the same way with current technology. So the aim of UI design is to minimise the overhead where ever possible, or at least make use of interactions that can be carried out quickly by the user. So if you can reduce the steps required to do something from 'Move mouse pointer-Click-Move-Click' to 'Click-Move-Click', that's reducing the overhead. If you can't get rid of the first 'Move mouse pointer' step, at least allow the user to move it quickly.

Hang on, move the mouse pointer quickly? What on earth could I be talking about? Find out next month. END



Continued from page 33

FreeTime v1.12

Time from server is Sun Oct 1 12:34:02 2000 GMT. Clock is 65 seconds fast - clock adjusted

Figure VII: Getting the right time from Demon

correct time, usually via an atomic clock or other accurate timepiece.

To syncronise your machine with these time servers, you need a piece of software which understands the Internet Time Protocol and can set your local Real Time Clock (RTC) to match the time being given out by this server (while also taking local timezone settings, and British Summer Time into consideration).

One such software for RISC OS is *FreeTime*. Figure VII shows *FreeTime* setting the local RTC to the time from the time server **ntp.demon.co.uk**.

Furry creatures

Before the "World Wide Web" as we know it now became commonplace, there was a text-based system of menus, links and documents already widely in use on the Internet.

Used mainly in academic institutions, "Gopher" introduced many of the concepts that we now take for granted when surfing the Web: hyperlinks, URLs, search engines.

Named after the popularity of the small furry animal native to Minnesota, the state's University where it was originally developed. Gopher offers a fast and simple way of accessing documents organised in a hierarchical menu system called "GopherSpace" (the Gopher equivalent of the World Web Web).

This can also be searched — one of the most popular search engines in GopherSpace is called "VERONICA", which stands for Very Easy Rodent-Oriented Network of Indexed Articles.

There are several ways of accessing Gopher sites. The original method was to use a Gopher client running on a UNIX mainframe via a Telnet session, as described above.

With the advent of the Web, you can now use a Web browser to access any Gopher site. You enter a URL in much the same way you would for a Web site, except instead of using the prefix "http://" you use "gopher://"

Most RISC OS web browsers appear to be able to access GopherSpace — with one notable exception which was *Oregano* — which instead of displaying the Gopher site itself, seems to pass the page onto another browser on my system which could handle it. Figure VIII shows and example Gopher site: **gopher://wiretap.area.com**

With the increasing popularity of the World Wide Web, Gopher is not used quite as much as it used to be. Its main advantage is that Gopher menus present text-only information in such a convenient fashion, so many organizations still host on-line libraries or reference systems on Gopher servers, the most prevalent being academic institutions and the US Government.

Commercial organisations tend to put their businesses on the World Wide Web, instead of in GopherSpace, because of the Web's multimedia capabilities (incorporation of graphics, sound, interactivity and so on). Still the little rodent is still pretty active.

Next month

We've covered quite a wide variety of topics this month, and you may have noticed the ommission of one of the largest "other" uses of the Internet — Usenet newsgroups. So I'll be dedicating next month's look at the OtherNet entirely to Internet news, including Usenet.

END

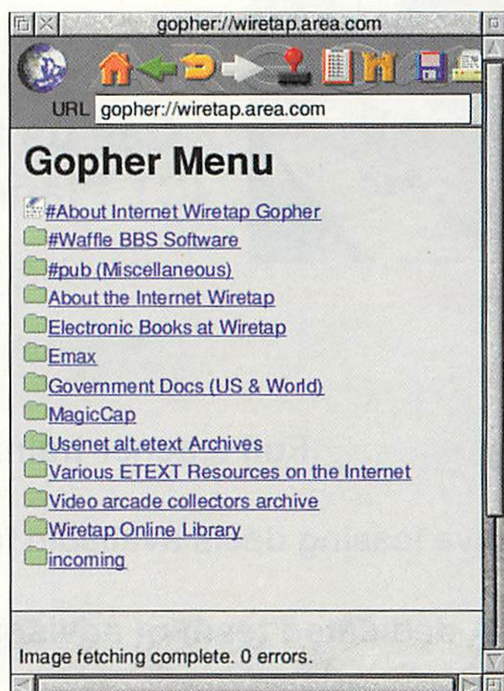


Figure VIII: Getting to grips with GopherSpace

Resources

FTPc	**www.ftpc.iconbar.com**
sFTP	**ftp://ftp.barnet.ac.uk/pub/Acorn/internet/sftp/**
FreeTime	**www.ping.demon.co.uk/acorn/**
FreeTerm	**www.xargle.demon.co.uk/2020/freeterm.html**

MUDs

Mud reviews and listing	**www.topmudsites.com**
Realms of Despair	**telnet://realms.game.org:4000**

Gopher

Mother of all Gophers	University of Minnesota	**gopher://gopher2.tc.umn.edu/1**
UK Gopher site	Queen Mary Westfield University, London	**gopher://gopher.qmw.ac.uk/1**



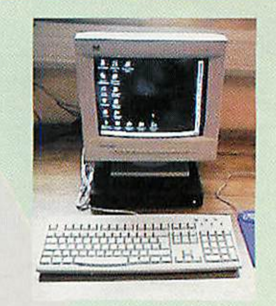
From the leading names in Education





An NC running in their own environement





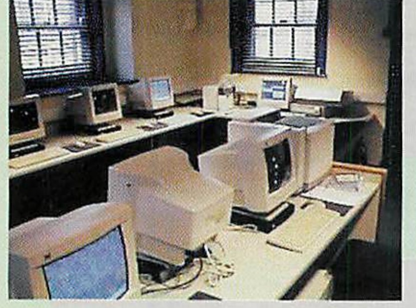
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Anglian updates

A new interface met the new school year, but the changes are not just in style but also in substance. The home and school sides of Anglia Campus have merged too which is a major change from the initial view of BT Campus. But still very much in evidence is the fact that subscribers still receive a Web CD-ROM containing *learning units* for offline use all at: **www.angliacampus.co.uk**

But what is new content-wise? Starting with Key Stage 1 there's Teddy at the Seaside and Teddy on Holiday. These new geography-based adventures with Teddy takes him to the seaside town of Tenby. Join him in a carriage ride through the streets, or head down to the beach for a boat trip to Caldey Island. In his second adventure Oulton Broad is the focus as he explores the Norfolk Broads.

There are also big books. Painting the car, violin practice, sheer laziness and bin emptying are the order of the day in Play Today. And when Dad takes a nap in the second of the range it only seems to increase his popularity with the rest of the family. But what happens when a lap gets too crowded in The Nap?

Moving up the phases we come to Grammar and Punctuation is a colourful, interactive series on grammar and punctuation for Key Stage 3 aiming to take you from simple sentences to adjectival phrases, via stems and question marks. Grammar 1 introduces nouns, verbs and the simple sentence. While Grammar 2 looks at inflection, and tells you more about nouns and verbs, and introduces pronouns, whereas Punctuation explores everything from the exclamation mark to the use of commas and colons.

World War II 1939-45: *personal recollections from the Pennines* is primarily for Key Stages 3 and 4 providing original first-hand accounts of life on a warship in the Mediterranean, the Normandy Landings, and the hardships, rationing and bombing of the Home Front. But these primary sources could be used elsewhere as well.

Since the merger there are *home* activities and new ones offer are: Recreational Maths, Days Out: Museum of Scotland and Marine Conservation.

Diary Dates

ECT Resource Conference
Doncaster Racecourse
November 16

BETT 2001
Olympia, London
January 10-13

Slates, tablets and boards

Something to look out for at BETT 2001 is the latest addition to the ACTIVboard range – ACTIVote. This is a hand-held voting keypad which has been designed to enable the whole class to combine with instant feedback *and* analysis! If this brings back images of children using slates then look at the ACTIVslate. This is an A5 infrared graphic tablet, which when passed to students enables them to take control of the computer screen from anywhere in the room, making it easy to stimulate whole class contributions.



Stand V60 will house these new babies at BETT 200, but if you can't wait you can contact Promethean on 01254 298526 or **www.promethean.co.uk**

In brief

Full access

Meanwhile, across the pond, the US government has set up a commission to ensure students make the best use of the Internet and have full access to the Web and other digital technologies.

The 16-member Congressional Web-based Education Commission, set up this year, has called for a "national inventory" of access to technology. This would examine the progress made in wiring up schools in the four years since the cut-price telecoms and cabling "e-rate" was introduced.

Kim Jones, Sun Microsystems' vice-president for global education and research, told members that the US must invest in the high-technology infrastructure to guarantee equal access to Web-based learning for all students.

Hard copy

Imagine a sheet of virtual paper the size of a continent and stored on a network, with every square centimetre having its own coding. Companies and institutions can hire sections and use it for notebooks, promotion, exams and assessments.

To use it, you need a pen being developed in Sweden by Ericsson. You write on the paper, the data goes down your mobile phone, which in turn sends it on to the server.

Everything you have written goes to the organisation that has rented the scrap of virtual paper you have "written" on. Called *The Anoto* this could well be technology in search of an application. For more information access: **www.ericsson.se**

Contacting AU

Pam Turnbull:
educ@acornuser.com

Online resour

If you need advice, additional resources or ideas for Literacy Hour and have limited time and money what do you do? Pam Turnbull guides you around some of the more helpful sites on the Internet

Although the Literacy Hour is for Key Stages 1 and 2, this is about to change as the secondary sector feels the benefits of the latest DfEE initiative. Here are some sites which should give old and new practitioners a few pointers on creating successful and enjoyable lessons.

Standards Agency

www.standards.dfee.gov.uk/literacy

Star Rating: *

A useful port of call to those new to the Literacy Hour especially for their *news section*. Not updated very regularly it does have useful advice, for instance on the role of classroom assistants in the shared section of the Literacy Hour. This covers the first half of the Literacy Hour raising issues for teachers and their helpers about the best use of other adults when children are being taught as a whole class. with suggestions for constructive roles additional adults can play when the teacher is leading from the front.

Cool planet

www.oxfam.org.uk/coolplanet/index.html

Star rating: ***

With very specific ideas for the Literacy Hour this is a useful site providing excellent texts in diary form for instance. For instance, there is a detailed shared reading activity with children reading through the diaries of Gely de Franca Lima and Kafil Ahmed online or using the text-only print option.

The teacher's notes expands this activity asking about other diaries children have seen/read and asking about the features diaries have which make them different from other text types, such as a date or time before each entry, the fact that they're usually written in the first person, and include specific details of events, places and people.

Using the experiences of Gely's diary of her work with the street children in Brazil, children could write the diary for one of the children she helps. Such ideas are interesting but don't miss out on the *Instant Lessons* section which is in addition to homework ideas.



Cary Studios

www.carystudios.com

Star rating: **

From the creators of Captain Pugwash this provides information about all the studio's main characters, including lists of key phrases and biographies which would be a handy resource for teachers looking at characters in fiction.

Basic skills agency

www.basic-skills.co.uk/bg.html

Star rating: *

A national development agency which you can search for teacher and student resources as well as look into the levels of basic skills needed and ways to tackle problems areas in primary and secondary schools as well as in further education.

BBC Education

www.bbc.co.uk/education/lookandread
www.bbc.co.uk/wordsandpictures/index.shtml

Star rating: **

Television programs which are now supplemented online by two interactive sites. "Look and Read" provides the *Spywatch* programme with some of the activities linked to word level work. Whereas "Words and Pictures" is more fun for Key Stage 1 children with poems, games, and activities.

Reading/writing at home

www.bbc.co.uk/education/schools/homelear.shtmlqa/rwatcsch.shtml

Star Rating: *

Aimed at giving parents of children who have just started primary school an insight into teaching strategies for reading and writing. This useful page also defines and breaks down the Literacy Hour and gives parents some tips that will allow them to observe the progress that their child is making.

Enchanted learning

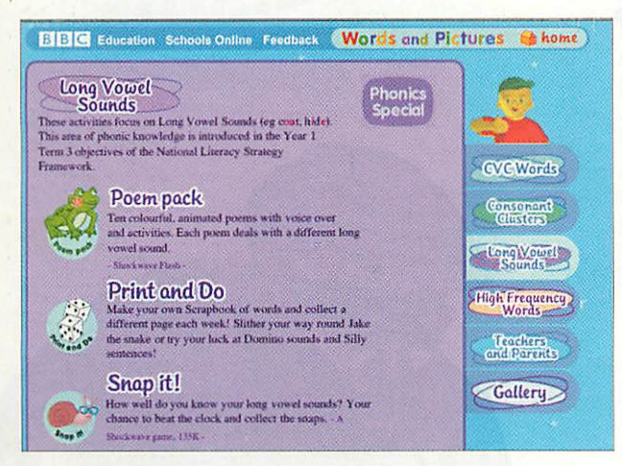
www.enchantedlearning.com/dictionary.html

Star Rating: **

Useful dictionary site for any child in Key Stages 1 and 2. The dictionary works like an interactive poster as children click on a word to find out more: acid rain, for example, produces pictures and suggested activities.



ces – Literacy



Free English resources

www.english-teaching.co.uk

Star Rating: **

Offers a range of support materials for language teachers at Key Stage 3 and 4, including an English language version of the Curriculum Cymreig. The resource sheets provided are basic and provide good reinforcement ideas.

Educate the children

www.educate.org.uk

Star rating: ***

Available for teachers, parents and children. This provides a useful breakdown of the Literacy Hour in primary school for parents in addition to a breakdown of the key skills children will learn it gives some practical advice on how parents can help at home.

Meanwhile, for the teacher, there are lesson plans, worksheets, articles and teaching strategies available to view and/or download as PDF files. There are also *teaching aids* this month such as an interactive spelling activity for Key Stage 2 on adding -ed. A slide-by-slide breakdown is provided for teachers allowing them to integrate this into their teaching.

Sunshine Hour

www.literacyhour.co.uk

Star Rating: ***

Key Stage 1 and 2 teachers can find model weekly plans concentrating on the different aspects of the Literacy Hour. There are monthly updates as well as interactive activities and homework sheets.

Neil's Teacher Resources

www.thornhillrd.freeserve.co.uk

Star rating: **

A personal, but highly useful site produced by EMAG teacher, Neil Phillips. There is a huge selection of RTF files on Literacy covering everything from comprehension to suffixes, connectives and pronouns. Then there are PDF files for Key Stages 1 and 2 on Goldilocks to Macbeth. These provide lesson and extension ideas which are highly practical and built around the needs of the classroom teacher.

Wacky web tales

www.eduplace.com/tales

Often the best ideas are simple and this site helps instil confidence in young story-writers and, in particular, an appreciation of parts of speech. Fill in each blank with a word to create an online story - fun and leads to some good class discussions too.

The Funny Forty

Below are forty of my most recent poems, along with a few older favorites. (There are only forty poems here to limit the amount of brain damage you can incur in one sitting.) As I write new ones, they bump some of the older ones off, so check back regularly!

Warning: **Reading funny poetry is like eating potato chips. Betcha can't read just one!**

Abusement Park	The Addlepated Glundersnedd	The Aliens Have Landed	Be Grateful For Your Epidermis
Benson Baxter Brought His Bowling Ball	Big Lunch	Don't Rat on a Mouse	Don't Ever Dine With Frankenstein

Poetry for kids

www.nesbitt.com/poetry/

Star Rating: **

American poet Ken Nesbitt maintains his own poetry site for children and as you'd expect it contains many examples of his funny poems. Not the prettiest site to look at but a good resource for the Literacy Hour, especially Key Stages 1 and 2.

What's your story?

www.bbc.co.uk/cbbc/write/

Star rating: ***

Aimed at Key Stages 2 and 3 this provides the beginning of a story written by a popular author and invites children to complete them and send in their work. With Iain Banks, Malorie Blackman and Gillian Cross among the contributors.

As you'd expect, the quality of the writing is high and teachers carrying out author studies through the National Literacy Strategy will find it a superb resource. There is also a really nice link to *Listen & Write* homepage (**www.bbc.co.uk/education/listenandwrite/showcase/index.htm**) which hosts poems, similes and raps among other creations all created by children of all ages.

Primary literacy ideas

www.primaryresources.co.uk/english/english.htm

Star rating: **

Gareth Pitchford's Primary Resources Web site: A combination of cartoon artwork with superb resources to create a whole set of worksheets and activities (on and offline) for the primary school teacher. A good one for the hotlist as this doesn't just provide literacy resources.

END

What the stars mean

*	some good points
**	good for teacher resources
***	can be used constructively by teachers and students

Type like an Egyptian

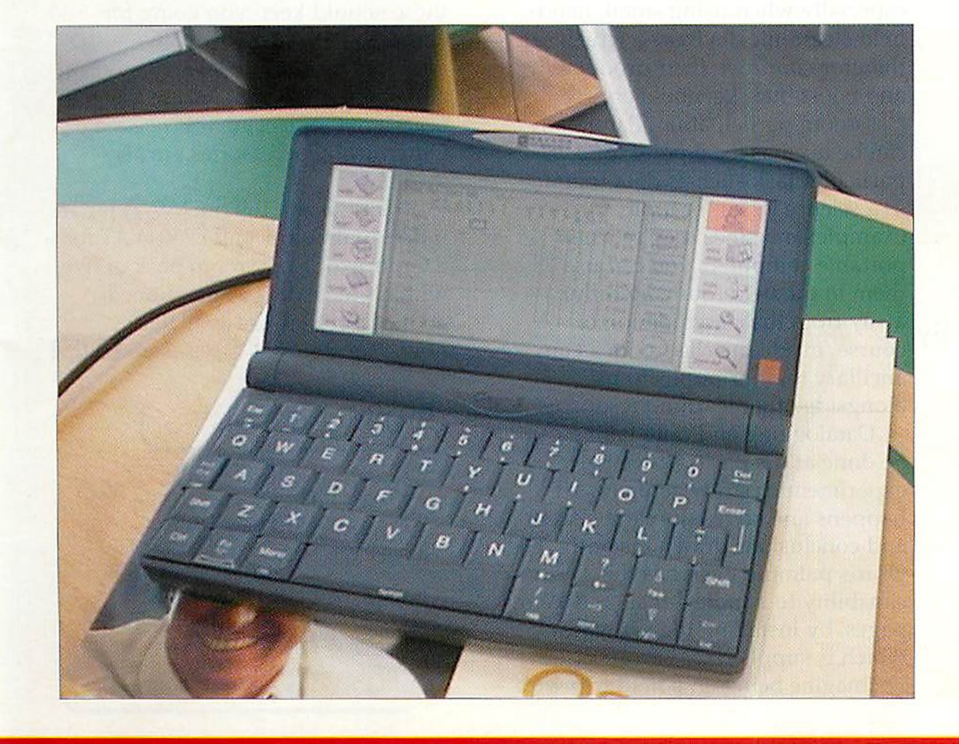
Teri Paul reports on the new RISC OS-related palmtop

You've been given your annual budget for IT ... so what are you going to spend it on? With the need to replenish stocks of consumables such as ink cartridges and print-heads for your various colour printers, the usual support contract obligation to the company who supplied those brand new PCs (so that they can be regularly maintained, or kick-started when they go wrong).

You'll be wanting to make use of some of the latest educational software titles available on CD-ROM, and not to mention any training requirements — I'm sure you'll agree there's not a lot of money to go around. High-quality equipment, which they (and you) can get to grips with very quickly and easily, doesn't need to make a large dent in your allotted spending money. Here, then, is an ideal solution which can give more pupils access to IT.

The Riscstation Osaris palmtop looks to be such a solution. A handy pocket-sized computer weighing in at just over 350 grams (with batteries fitted) and measuring just 17x9x2cm (that's 12oz and 67/10"x31/2"x9/10" n old money), following on from already established and successful portable computer initiatives for education with companies such as Acorn and Xemplar (Apple), the Osaris should be a good addition to any classroom.

The machine itself is fully Psion-compatible and features the usual built-in software including word-processor, spreadsheet, database, scientific calculator, and Agenda. Files can be exported for use in many of the popular desktop computer applications (on Windows, MacOS, and RISC OS computers), and includes sketch program and a spell-checker among other useful utilities.





This machine boasts a simple graphical interface for easy control, a touch-type keyboard with keys that are not too large for small fingers, and not too fiddly for adults to use either. The backlit screen is sensitive to touch allowing system navigation and control using the blunt stylus provided, it can be linked to a desktop computer or to a printer via an appropriate cable (or, if your desktop computer has one, by using the built-in infra-red port), and the display can be zoomed in or out if required.

The specification reads like this with 8Mb of ROM (System OS), 8Mb of RAM, an 18MHz ARM7111, EPOC 32 (ER4) operating system, uses a 16grey-level half VGA LCD display, disc memory can be expanded using compact flash media. It has IrDA and RS232 ports both with maximum data transfer speeds of 115Kbps, it



allows OPL user programming, and supports terminal emulation.

Osaris and ICT

The Internet is expanding and the use of ICT is becoming a much more integrated part of daily life for everyone from Reception-aged pupils to old-age pensioners, and a decent palmtop is a very useful tool to assist learning in the classroom.

The use of palmtops in schools has already demonstrated how useful they are, and the Osaris can fill the gaps where machines haven't yet been acquired, or older ones are beginning to wear out — kids give them quite a beating (though one trick to help with this is to increase the level of responsibility for the machine).

The battery life of a palmtop over a laptop means that you can keep going with a laptop and not have to worry whether you're going to run out at some point.

With each pupil having personal access to a computer where they can produce work in their own time, at their own pace, without issues like handwriting or spelling getting in the way (such concerns can be dealt with discreetly, so using technology in this way allows less able or less confident pupils the chance to be more creative and thoughtful without the hindrance of self-consciousness or the criticism of other pupils)

Children tend to become more competitive among themselves and strive to achieve better results — especially when using small, hand-held electronic devices — which can therefore improve their productivity and boost their keenness on classroom participation. Palmtops can be used as focal point for a particular task such as data-logging in a science lesson or topic, for example; and since they're truly portable computers you can use them in the field (quite literally) away from the classroom or, of course, inside the classroom as an ancillary tool for pupils to use alongside other learning resources.

Datalogging and note-taking can be done at the place where the experiment or study actually happens and so results can be seen and conclusions drawn instantly. The Osaris palmtop even has the capability to handle e-mail and Web pages, by installing the software which is supplied.

Imagine being on a field trip with a class of pupils, performing a scientific experiment and obtaining real, live data, or carrying out a demographic study, producing a graphical interpretation of your results, writing up your conclusions, then e-mailing your work, using a suitable mobile phone, to anywhere in the world. It has many useful applications in the learning environment which extends to the teachers themselves too, especially with its comprehensive Agenda application to keep you well organised.

How to get it

RiscStation is offering the Osaris palmtop either singly (with batteries, connectivity software for RISC OS and Windows, and a serial link cable included) or in packs of five. The classroom Groupwork pack comes with everything you'll need to get started. You'll receive five palmtop computers, each with its serial link cable, software and batteries, 20 additional AA alkaline batteries and five additional button-cell backup batteries (with average usage all these should keep you going for about a year), two UK mains adaptors for prolonged static use, and some spare styli in case the occasional replacement is needed. Other useful accessories are also available.

Pricing is at £169 (incl VAT) for an individual Osaris and £750+VAT for a Groupwork classroom pack of five, with all the extras as mentioned above, and they are available now. END

Product details

Product:	Osaris
Price:	£169 each (inc VAT) or £725 +VAT for pack of five
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Fax:	01942 797711
E-mail:	sales@cta.u-net.com
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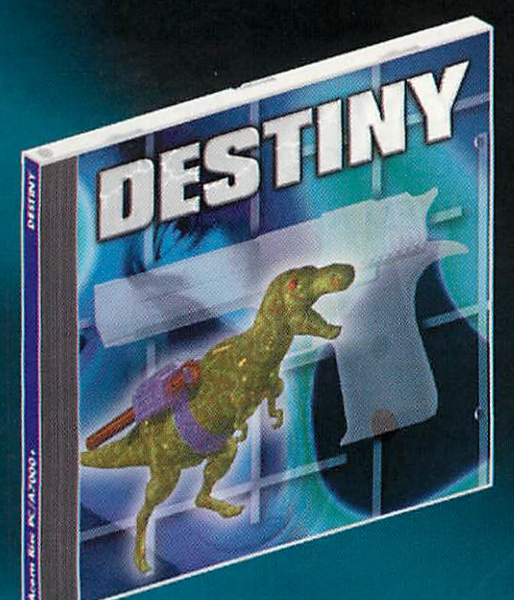
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Hand me the slingshot

Robert Richards takes a stand

It's a classic case of David and the Goliath if ever there was one. As an ex-Word user, how does the Icon Technology's *TechWriter* size up against the might of Microsoft? Before I begin, I should point out that until very recently I was very satisfied with *Word*, it's certainly extremely versatile, and it's very easy to create just the page layout you want, using macros, the 'wizards' or by hand, the choice is yours.

However I'm now an engineering student, and need to produce reports with equations, figures, graphs and photos embedded. Suddenly I need to use more than just formatted text, and *Word* — with the Windows environment — started to let me down. I'll discuss my concerns with *Word* as we go along.

First impressions

Before I moved to RISC OS, many people had raved to me about a product called *TechWriter*, telling me how easy it was to use, and the simplicity of creating complex equations. I surfed on over to Icon's Web site and had a look for myself. None of the glitz and hype of Microsoft, instead, there was some example output, a description of its major features and a 'ticklist' of its capabilities. What a breath of fresh air, no statements about making work 'fun', '...wizards to guide you', Icon Technology's Web site just explains clearly the features of *TechWriter* and *EasiWriter*.

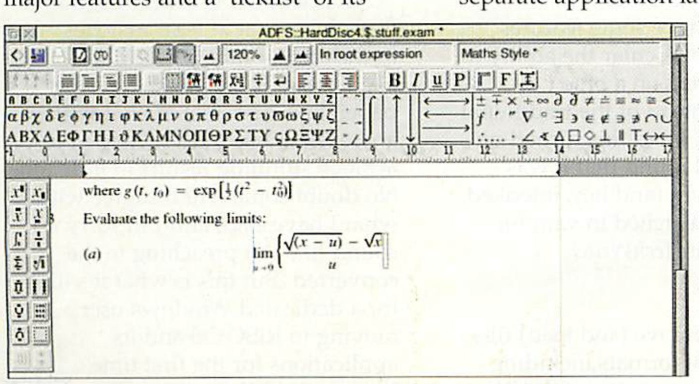
I ordered *TechWriter* at lunchtime one day, and it was in my hands the next morning — now that's what I call good service! Opening the box, I was surprised to find just two floppy discs, and the ludicrously simple installation instructions, as well as two well-written manuals.

Installation took about two minutes. No wizards to nicely alter all my system settings for me, no wading through option sheets and menus, no half hour wait as hundreds of megabytes get sucked off a CD. Just copy and install the fonts, it reaffirmed my feeling that I'd made the right decision moving to RISC OS. But can an application that fits on one floppy disc really deliver what it promises?

Let battle commence

TechWriter's main selling point is its inline equation editor, this was of great interest to me. *Word* is capable of inserting equations into documents, but it relies upon a separate application launched from the toolbar, which effectively pastes a picture into the document.

It's cumbersome, and takes an age to get things formatted correctly, and it isn't really part of the document, any changes and you have to wait for the editor to launch.



TechWriter's equation editor is ridiculously easy to use compared to Word

Furthermore, on my copy of *Word*, the editor packed up altogether, either hanging the machine while it loaded, or just causing some disc activity and never appearing on screen. I ended up having to write my formulae into the reports by hand, hardly satisfactory.

Of course, before I could actually use *TechWriter* and make a fair comparison, I had to be told how to use its features. Fortunately it's provided with two concise, well written and comprehensive manuals. The tutorials are invaluable, introducing the features, keyboard shortcuts and demonstrating how to achieve different results. I followed them, and found they took an incremental approach so the learning curve wasn't too great.

They also get the user to perform the same operations in different circumstances so you learn the commands more easily and it shows you how the same techniques can be used to produce different results. *Word*'s manual consists of hundreds of pages that explain the different features to some degree, but without really bringing them together in a coherent fashion. I mean, there's nothing wrong with it, it just isn't as good as the *TechWriter* one.

The inline equation editor is indeed something to shout about, I can still scarcely believe its simplicity. The fact that I don't know exactly how an equation ought to be formatted is irrelevant, it's all done for me. This is not the case with *Word*, you basically draw a picture with some pre-loaded templates, it knows nothing of spacing or any of the other rules.

"Ah", says my father. "But I bet

you can't alter it without deleting the whole thing." I showed that you could, as if you're editing plain text and he was very impressed. If you've never used *Word*, or not used it a lot, I don't think there's anything I can say that would make you appreciate what a difference *TechWriter* makes in this area. It's something you have to experience to realise why it pleases me so much.

Dropping pictures into a document is something that is very easy with *Word*, so long as you know what you are doing — they aren't always dropped at the caret — however, it's easy to edit their position. The major fault of the version I had was its complete failure to save the formatting of pictures, so when you reopened the document, they were strewn all over the place at their original size.

It's almost as if the part of the code that saves the document said "there are pictures x, y and z" without saving formatting data. Apparently this was fixed by two 'service releases' from the Microsoft Web site, but I never got them to install correctly.

I can say the *TechWriter* copes with pictures very well, offering all the options that *Word* does, and allowing figures (boxed pictures with informative text) to be created as an option. It does have a strange habit of turning JPEG images into negatives as soon as the window is scrolled, but they seem to print properly, so it's not a major problem.

As a test, I re-created the document that ended my love affair with *Word* once and for all. A seven-page report that contained eight JPEGs that originated from scans of I K Brunel's sketchbooks. A 20Mb document in Word that wouldn't print on a 128Mb machine as I didn't have enough memory!

Eventually, a friend with a whopping 256Mb printed it for me — but even he struggled, having to do a page at a time. Oh yes, he had to reformat the thing too because of that silly bug... *TechWriter* just did it; no fuss, no problems with printing. What more can I say? It beat *Word* fair and square.

I doubt if any company in the Acorn market would dare to ship products with such major and crippling bugs as Microsoft did on this occasion. Certainly, apart from the strange effects on screen with JPEGs, I haven't found anything obvious with *TechWriter*.

Oh, and it hasn't crashed once (well, it has but that was only because of a hardware problem so I'll let Icon Technology off with that one).

I don't fully understand how to get documents formatted exactly the way I want them using the powerful formatting tools that *TechWriter* possesses. In fact, a couple of acquaintances have said the same to me, but we pretty much agree that it's because we haven't bothered to learn how to. I myself am too busy drooling over my formulae!

I still don't find it as easy as I did with *Word* to get documents formatted exactly as I wanted them. but then I've only been using *TechWriter* for a month or so as opposed to about eight years of *Word*. What is clear is that the formatting tools are extremely powerful and will save me a lot of time once I've learned how to use them.

Word does have some features that I miss, in particular the ability to display white text on a blue background instead of the traditional black on white. I had this turned on all the time as I found that it was easier on the eyes (and hey, it looked cool) and I've searched in vain for such a feature in *TechWriter*.



Verdict

Given that I can save (and load) files in whole host of formats including *TechWriter*, plain text, Rich text, *Word* and HTML, the package can communicate easily with other platforms, which is pleasing. There is also support for such things as OLE, allowing a graph say to be automatically updated when it's source file is altered.

It also has features unique to any application on any platform, such as the ability to easily write right to left. It's virtually bug-free, it's easy to use, the formula constructing capabilities will blow your socks off, the documentation is first class and it's in active development. It's easy to see why Icon Technology have won awards for their products.

TechWriter's inline equation editor is so much faster faster than Microsoft's solution, produces better results and is actually a joy to use. I never thought I'd look forward to writing up lab reports.

In my opinion, *TechWriter* has a feature list that at least matches *Word* in the area of functionality and usefulness. There are no dancing paperclips, just a set of well-written and easy to use tools to help you achieve stunning results in little time. No doubt some will disagree with what I have said, and I'm sorry if I sound like I'm preaching to the converted. But this is what it's like for a dedicated Windows user moving to RISC OS and its applications for the first time. It's wonderful! END



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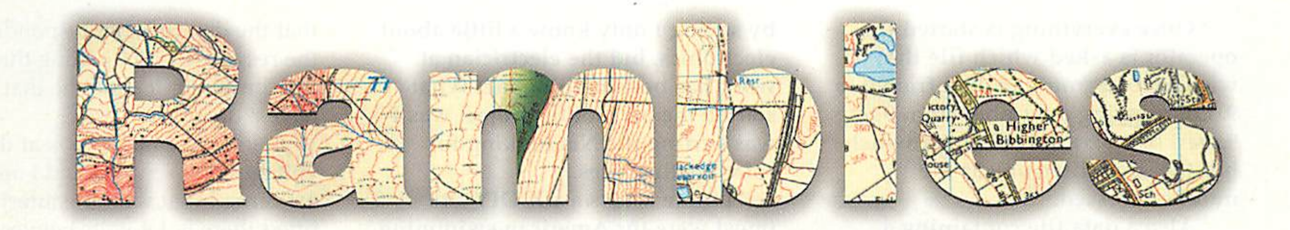
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RISC OS



Mike Cook crunches through the frost

This month's CD then is about programming, something I do quite a bit of. I have used many platforms in the past but by far the easiest to use is the RISC OS one. However I do feel sorry for anyone today learning the art of programming as there is so much more to learn now than when I first started.

Mind you that wasn't easy, submitting listings for operators to produce a pack of punched cards and run them. Then it was trawl through for syntax errors, try and get on the one punch card machine to correct them and submit again.

It was the equivalent of only being able to type RUN once a day. The best time to learn programming was in the mid 80s, home micros were cheap enough and programming was a relatively straightforward task.

Nowadays with the emphasis on desktop applications there is much more code to be written getting the user interface right that there is actually doing the job you want. But man does not program by BASIC alone, so try some of the other languages on offer, they each have their own attraction.

Francesco Frontera from Italy write about a strange problem:

Q "Using freeware Internet programs I get the error message 'nager:Sprites24'. All Acorn users tell me to check the module Drawfile and in particular whether I have more than one of it but I have just one and it is updated. What could the problem be? I have 4Mbs of RAM and RISCOS 3.11."



A This is an odd but not unknown error. It occurs when the operating systems error dialogue box can't find the icon to use. So it is a sort of error in displaying the error box and as such isn't really helpful in tracking down the problem. Basically it means something is screwing up somewhere.

If you have a sprite file inside **!Boot.Choices.Boot.PreDesk** that will be iconised on boot-up, that means you can change the default values of system icons by having redefined icons here. This could provide a sort of backup to the icon that is missing.

Make a sprite file with a sprite called 'error' and 'warning' and put it in here. If you centre click on your Apps icon and select Resources, then follow the directories down through **resources.wimp** you will find the operating system's basic file definitions held in ROM.

You could copy these sprites from that onto your hard drive. That might stop the error message you are seeing and allow you to see the one that is actually causing the problem.

Peter Wilco has come up with a rather interesting thing this is what he has to say:

Q "I work for a company who builds/services/repairs all types of machinery for the PVCu window industry. Recently we got a machine in, about 15 years old which is for routing slots and holes in door profile so that the lock mechanism will fit in. This machine appears to be controlled by some sort of BBC Micro derivative which is mounted in a rack and card system.

"Other cards in the system include three stepping motor drive cards which the BBC controls (It is a three axes machine, therefore three drive cards). What I need to know is how to go about changing the files on the disk so that I can put slots and holes where I want them. I can send you an e-mail containing the files on the disk if you like, but basically I will try to explain here:

"The disk is a 3.5in DFS 80-track single-sided single density disk. On the disk there are two programs, one written in BASIC called *dispten* which displays information to the operator on the monitor and another program in machine code called *conasem*. It is this machine code program which does all the control. There is also a small command file called BOOT, yes I mean BOOT not !BOOT which you *EXEC to start things going. The BOOT file contains the following lines:

```
?&FCB2=255
CH."dispten"
```






"Once everything is started the operator is asked which file they wish to load from the disk from 0 to 9. On pressing a number from 0 to 9, part of a text file is loaded which has the same filename as the number pressed.

"Also a data file containing a load of numbers is loaded, there is one of these files per number pressed. As far as I can tell the machine code program uses these "data files" to work out where to send the machine in order to route the correct bits out of the door profile.

"It is these data files I need to be able to alter so I can make the machine route the parts I want. The problem is despite experimenting I can't work out what numbers correspond to what. If you have heard of one of these machines or similar I would be very grateful for any help at all."

A There was a company who made these rack mounting BBC Micro cards, they were called Cambridge Computing (or Consultants). However, they will not have made your machine, it sounds like someone took their cards and made your system.

Your analysis sounds plausible. I would suspect that there is a program somewhere that creates the data file. I think your only options are to try to analyse what the programs do with the data. If I were designing it I would not have the machine code manipulating the data but controlling the motors according to data passed down to it from a high level language. The other option is to start again and write programs to control the hardware you have. Can anyone remember this system?

Steve Mardell has temperature trouble:



Q "I am having problems getting the one wire bus to work: Let me first start off by saying I only know a little about electronics, but the electrician at work has been helping me. What started me off on this project was I was surfing the Net looking for solar heating sites.

"I came across a UK DIY site (most were for American swimming pools), anyway looking at the site I noticed they were using DS1820 thermometers and a PIC chip. I recalled seeing something using this kind of set up in *Acorn User*. Now the problem, the above electrician got all the parts and made up the interface using the RS232 port for me. To test everything is ok I used your test programs running test1 I get:

interface found with devices active
running test2
interface found with devices active
serial No ff ff ff ff ff ff ff ff
data error

All the other tests gave errors. Now I have checked the pin voltages with a multimeter with and without the interface fitted and I got the following results.

	pin2	pin3	pin4	pin5
w/o interface	107mV	-11.4V	11.11V	0
with interface	-2.4	-9.39	-3.78	0

I am using RISC OS 3.7 StrongARM with no extra interfaces fitted I have also checked the serial speed with the *Sertest* program and see 115200 baud.

Just one more related question, if you have time could you take a look at the site **www.anotherurl.com/therm/default.htm** and find the schematic for the controller and advise as to whether or not this will work with my Acorn. as I see it, it should work ok but as I am unsure about such matters a second opinion would be very welcome."



A Sorry you are having trouble with the circuit. The results of the software tests indicate that the device is not responding or the response is not getting through to the computer. It could be that you have a damaged device.

Also I have had a look at the voltages you sent me and I am a bit concerned that with the interface fitted there is 1.4 volts between pin 2 and 4. There should be a diode here between the two pins and as it is a Schottky one there should be no more than 0.3V across it when it is forward biased.

Note that this diode and the one across pins 3 and 2 must be a Schottky one. This is because they have a small forward voltage drop, this could be why the device appears not to be responding. Note this is a floating earth system so the earth of the device must not be connected to a real earth otherwise you will damage it. You really need to look at the waveforms on an oscilloscope to see what is going on.

I checked out the circuit on the Web site and while it will work with an Acorn machine there is absolutely no point in using it. The reason is that all that it does is to give each device it's own 1 wire bus, there is no need as it can all be done in software. I suspect he did this because he couldn't understand how to handle multiple devices on a bus. I did find it complex at first.

As an alternative you might like to look at April 1998 *Acorn User* RTR39 which is an I2C temperature measurement system. This doesn't need any hardware interface at all as the I2C interface is built into all Acorn RISC OS computers. You can simply access the lines through the podule connector. This temperature sensor does however need power to perform its conversion, unlike the DS1820 which can be powered parasitically from the bus.

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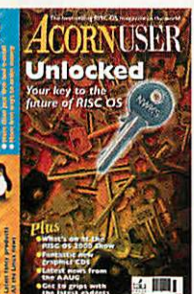
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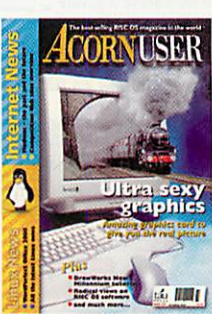
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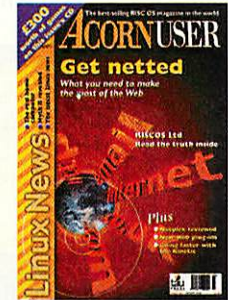
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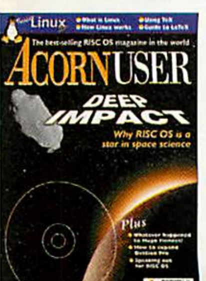
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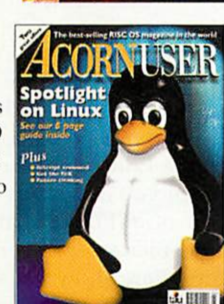
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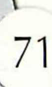
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On the looko

A few years ago I came across FEMS (Finite Element Materials Synthesis) on a friend's RISC OS computer — I'm very interested in this package but can't seem to track it down beyond the fact that it was distributed with your mag. I'd like to know if it's been ported to PC (MS or Linux) or, if not, I'd like to have a go myself.

While I'm mainly (alas) a PC user these days I can do ARM code but I suspect a reasonably good C or C++ version could be produced. Any info that might help?

Adam P. Berridge
by e-mail

The devil you say?

I am a user of both PC and Acorn systems and attend Acorn shows as regularly as possible to check on new developments and new RISC OS hardware. As proud as I am of my little Acorn I cannot say that I am as proud of the majority of fellow RISC OS users that I meet and talk too, for one simple reason:

The majority of them seem to have a fixation; an almost evil desire to call and reject anything remotely connected to Microsoft or the PC format. Bill Gates is the devil incarnate, and Windows his pitchfork according to most Acorn users, and to be honest it gets right up my nose, you know who you are.

Let's get a few things sorted out right here and now. Windows does not, I repeat not, crash every two seconds contrary to what most Acorn users will tell you. The same goes for virus attacks. Remember that millions of PC's are in use across the globe so, of course, there's always going to be someone somewhere with a down system — just as there is always someone somewhere stood beside their reputable, yet broken down, car. At any rate I have seen many an occasion where a RISC OS system has decided to cough, splutter and die miserably.

My Acorn is great, I love it (not literally) and it is very good at what it does though regrettably that is not an awful lot in comparison to my other system, the PC. Yes I can almost hear Acorn users across the country spitting out their coffee in fury at that comment but as much as I would like it to be different, my PC does do a long list of things my Acorn can't do as well if at all.

The point here is that I don't go around shouting about RISC OS system's downfalls and inabilities to other PC users. Why? Because it's complete schoolyard behaviour and I know that this sort of behaviour only serves to segregate one further from the rest of the world's computer users, who in turn don't take you seriously when you do have something worthwhile shouting about. See "Respect" in dictionary.

The PC industry has in the past learned stuff from RISC OS, as we should be learning, or taking good pointers from the PC industry, primarily in the software department. Is it so hard to say "that's good" about anything PC/Microsoft? It is obvious that the likes of Riscstation are looking towards the PC industry for ideas, the PCI project and current R7500 software being two of many examples.

Why can't the rest of us accept that firstly we are a clinging minority and secondly we are in no battle, if we were we would have lost it a long time ago. Let's grow up a little here and not act like a bunch of Amiga vs Atari schoolboys OK?

This is where I originally signed off, said good work on the mag and parted peacefully, but low and behold in the very next issue of Acorn User what do I see? An article which may as well have been titled

Perfect tiles





I read the article "Perfect Tiles" on the Graphics page of the October issue of *Acorn User* and thought that it should be possible to do the same without recourse to expensive software. This is how I achieved the desired results with "free" software.

Load *Draw* and apply a locked grid (cm 1 x 10). Set the monitor mode to 256 colours. Draw a rectangle, fill with the desired background colour, and set the line colour to none. Create a logo or initial letter in whatever font, size and colour you desire.

Position it so that it overlaps the top of the rectangle, make a copy and position it so that the remaining part overlays the lower part of the rectangle. Having the grid lock on makes this easy. Repeat with copies of the logo on the left and right edges of the rectangle. If you want to rotate the logo, select all four after positioning and rotate together the desired amount.

Now comes the only slightly tricky bit. Load *Paint* and use the snapshot facility from the iconbar menu to capture the coloured rectangle. This takes a little practice to get it exactly right by eye. It's better to err on the side of capturing a little of the white background as this can be easily removed by deleting a row or column of pixels using the Edit submenu in *Paint*.

When you are happy with the captured sprite, drop it onto *WebGif* (PD software) and save out the GIF under a suitable filename. Et voila! The job is done. Some examples are shown here.

Tony Singleton



ut for FEMS

"the PC stinks, so I got a much more superior Acorn". Was this sort of article really appropriate as a feature segment?

Is the magazine itself as narrow-minded as I originally believed it not to be? A spot in the reader's letters area sure, but a whole article? Remember that this is one person's experience and opinions on a sub-standard machine anyway, and not a complete summation of the whole PC experience globally. Of course I can see the appeal of printing it because of the attitude shared by most RISC OS users mentioned earlier. Even more proof of my observations.

I will part with a quick questionnaire:

What is the operating system that you most detest? Why do you hate it? Are these reasons learnt through your own first hand experiences or are they reasons passed on from other sources (for example, magazine articles or word of biased mouth)?

Think about it.
by e-mail

Easy peasy

I write in response to some letters I have just read in *Acorn User* regarding the ease of use of RISC OS. Some say that it is not easy to use, or at least, is not intuitive, since there is nothing to say that you must drag an icon to a directory. Another complaint was the notion that you must have a directory on screen for you to save into.

As a teacher and ICT coordinator, I approach computing more as an educator than as a home user (although I spend much of my time at home on my computer as well). I assess the merits of a system or application, not so much as how easy I find it, but as how the children will cope with it. In my experience, children actually respond much better to RISC OS than they do Windows and it is because of the very aspects of the OS that some people seem to be deriding.

It may not be the most obvious thing in the world to drag a save icon to a directory, but is this not what manuals (or perhaps teachers) are for? The drag and drop system is such a valuable tool, especially for children, as it is used in so many operations on a RISC OS computer. Children can not only save their work, but they can add pictures to their presentations without having to be able to read 'insert clip-art'.

This is important if you are working with very young children and I work with some that are severely dyslexic. They may be very bright, but if they cannot read, they find Windows quite hard to use. The idea of having to have a directory on screen to save into is also a good one. Someone described it as leaving your desk, opening a filing cabinet drawer, returning to your desk, collecting the work and then filing it, describing it as a laborious process.

Firstly if you compare this to the sit at you desk, call over your secretary, explain that you wish the work to be filed, wait for her to find a good place for it, for her to put it away and then to tell you that she has done it, you may see that there is little difference. However, I see the RISC OS system as easier for children to understand. They get an idea of what a directory actually is and that they are in control of where the work goes.

If they want to save it to take it home (as they often do with EasiWriter or Eureka), they know where to find it quickly without having to go through the application itself. Children rarely lose their work on RISC OS (although I am not saying it does not happen), but they frequently lose it in Windows, not to mention the times that Windows crashes and 'unsaved data will be lost'. I am not advocating, by any means, that RISC OS be seen as an operating system for children — far from it — but I do believe it makes computing easier to understand.

If you want to edit a program (as I had to do with some Sherston software recently, because it was not RISC OS 4 compliant) it is simple to do; in Windows it could be a case of tracing any number of files and then Wordpad probably won't load it. RISC OS is as simple or as sophisticated as you care to use it. While other operating systems appear to carry out simple tasks for you, it is this 'servant' nature that gets in the way.

People learn from experiencing first hand and need to do things for themselves. Windows keeps people subservient to the computer (perhaps intentionally) while with RISC OS the roles are reversed. With RISC OS you do need to do things for yourself, but it is great to have the freedom to do so. Other operating systems keep you confined to certain parameters and get upset when you try to transcend them.

So, easy to use? That very much depends on you. Easy to understand? Well, I think once you have learned to control your mouse, the harddrive is your... oyster?

Graham Wootten
by e-mail

Embroider that

A group of friends run an embroidery group and we're starting to share information over the Internet. We've set up a club Web site and most of us can access it from home (using PCs).

One of us has an Archimedes at home but no modem, and she'd like to be online. I think she has an A3000. Is her computer too old to access the Internet, or can she still find components and software to let her do this? I also have an old A310 at home, would that be any easier to connect if she is unable to connect hers?

Doreen Wood
by e-mail

With the missing serial chips the older machines are capable of doing e-mail, but not really much more than that. Partly due to memory and partly due to serial port speed.





John Kortink

Word association: "RISC OS, Holland". For most people I tried it on the next words were "Big Ben Club". There has always been a strong link between the Netherlands and RISC OS machines. Currently there is much excitement from the Netherlands about *ViewFinder*, a graphics card for the Risc PC. *ViewFinder* is being developed by Windfall Engineering, John Kortink's company. I think John would love to make it: "RISC OS, Holland" "Windfall".

Windfall Engineering builds both software and hardware products, either for John's own ideas, or for other companies. The much talked about *ViewFinder* is a combination of two cards, an interface card and an existing AGP graphics card as used on 'regular' PC's. The interface card basically makes it possible to use any available AGP card on the Risc PC, given the software to drive it. Which all seems like very exciting stuff.

'The software for the only currently supported AGP card is nearing completion'. Explains John 'I'm now contemplating either supporting a second, different AGP card, or starting a new project altogether'.

> Good source code must be a work of art

In a Bridget Jones moment I had been calling John's company Windmill, so I was intrigued to find out why the company is called WindFall.

'The dictionary says windfall equals unexpected good fortune. I liked the idea and the word sounds well.'

I also wanted to know did John program in Dutch?

'I program in English. I've been an assembler addict since day one, I still remember reading the green pages on that subject in the Acorn Atom manual and desperately trying to figure out how on earth the Mastermind program, that was used as an example, worked. It's been downhill from there, so to speak,' jokes John.

'I never lost the urge to try and squeeze every bit of power out of as few instructions as possible. Although these days I don't very often go for the last percent or so, because this often sacrifices too much elegance and readability. Good source code must be a work of art.'

'A lot of BBC Basic experience, also followed, naturally from having an Acorn machine. I got into C++ when I started working professionally as a software engineer. I have grown to like object-oriented programming, since my university days really. C++ combines this with the efficiency and speed I've always fancied.

'Last but not least and one step beyond assembler, hardware design languages. Mainly Verilog in my case stepped in when I worked for my first employer. Their product was a high-end graphics processor and for several years I've been delving deep into the source code for this beast, writing emulation code and test programs for roughly half of the chip.'

It was thanks to his brother that John got the Acorn passion. In around 1980, he brought home an Acorn Atom. John was so impressed with this new 'toy' that he soon had his own to play with. He wrote his first 'big' program on this. A 'spacey' kind of game which involved trying to 'shoot' a dot moving in a straight line across the screen. Nearly twenty years on the passion still continues.

'I now use both a Risc PC and a regular PC the latter for gaming and Internet. Obviously there are still a few older machines lying around, but not many. I'm not overly keen on keeping absolutely everything I ever buy. But, some time ago, for nostalgic reasons, I re-acquired the same BBC Model B with 6502 second processor set-up, that I spent so much time with in the eighties. I certainly didn't get all the Acorn machines that were produced over the years.'

One of John's philosophies on life is that he often finds normal people rather strange animals, and that they should shape up a little. It is a philosophy which is linked to RISC OS machines. John believes that RISC OS is not for everyone, because you have to like the philosophy behind the machines to really appreciate using them. He believes that they are not for people who simply want to run a couple of programs. For John it seems that most normal people want to do this, which is why there are so many PC's around.

'I'd like to continue using RISC OS machines. First of all because they're different. Second, because they've always been very inviting towards people who like to do things beyond simply running programs. A lot of this has been, in my opinion, due to the extensibility of Acorn hardware, and the seamless integration of both an excellent assembler and a very usable Basic interpreter.'

John wants to continue running his own business 'Because of the enormous freedom and satisfaction this brings to me. It's great to be able to create an environment for yourself, to host only your own talents and interests. With, obviously, half an eye on making a living with it.'

Now let me see. What was it? "RISC OS, Holland" ...

Jill Regan